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President's Address

"AND THE FUTURE"

BY

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There is a disorder of the mind described by psychiatrists under the name of "double personality," the victims of which often come under medical care when they are leading the one or the other of their separate lives. If and when the two personalities, perhaps as the result of some emotional disturbance, become fused or integrated a more or less normal individual is the result. But this happy state is not necessarily permanent and relapses are not infrequent. For the fourth time in just over a hundred years the Regius Professor of Medicine in the University of Oxford and the President of the British Medical Association have to-day become one person, who, in his state of temporary sanity, seizes this opportunity of expressing his warm appreciation of the stimulating treatment he has received at the hands of his professional brethren and his pious hope that when the inevitable relapse occurs in a year's time they will regret neither the choice nor the subject of their therapeutic experiment.

Since my last personal synthesis in 1868, when Oxford knew and honoured me under the name of Henry Acland, great progress has been made both in medical practice and in medical education, the two subjects which have naturally received my constant, though divided, attention in the interval. The future of those two subjects, and particularly their reactions on each other in relation to further progress, is being discussed all over the civilized world, and there can be little doubt that we are faced with the prospect of far-reaching changes, affecting profoundly the sociological, scientific, and economic position of the medical profession. It is, in fact, generally recognized that changes are necessary—indeed, unavoidable—and it is the duty of our Association to guide their direction in the best interests of the community which we serve. This is not the occasion to enumerate, much less to discuss, all the difficulties in front of us, the overcoming of which will need much wisdom and much courage, but I may perhaps be allowed to put forward certain fundamental principles which, in my opinion, should influence the purpose and course of new developments in practice, and to suggest how medical education may possibly be modified to meet their needs.

When Dr. William Collier, whose recent death deprived Oxford of one of its most valued and beloved citizens, gave his presidential address here thirty-two years ago he took for his theme "The Growth and Development of the Oxford Medical School." He talked with knowledge and feeling of the past as I propose to talk, without knowledge but with hope, of the future, bearing in mind the part which that school may be expected, or be called upon, to play in the general progress of events.

National Health

Those of you who are interested in the problem of raising the standard of national health through the prevention and cure of disease are fortunate enough to have at your disposal a book written by Sir Henry Brackenbury, entitled *Patient and Doctor*, which reviews the history, present position, and prospects of that important relationship in the lucid and masterly manner which the author has led us to expect of him. You may supplement this by reading an address on the "Future of Medical Practice," published in the *Supplement* to the *British Medical Journal* thirteen months ago, in which are clearly described by our incomparable Medical Secretary, Dr. Anderson, not only the difficulties besetting us, but the valuable contributions which the Association is offering from time to time towards their solution. The groundwork of your education will be completed if you study the annual reports of the Chief Medical Officer of the Ministry of Health, those of the Medical Research Council, and, lastly, the conclusions arrived at by two or three committees which have suggested various modifications of the medical curriculum in recent years.

Confident that the majority of you are not, and are not likely to become, acquainted with the literature referred to, I venture to summarize in a very general way the impressions it has left on my mind and the thoughts to which it gives rise. In the first place it brings home to me that, as the result of revolutionary changes during the span of a lifetime in the attitude of the public and of the State towards questions of health, many agencies, both voluntary and statutory, have been brought into alliance with the medical profession in its fight against disease, but with a minimum of co-ordination and with little respect to economy of money, time, or personnel.

When I was a medical student forty years ago such names and expressions as the Ministry of Health, municipal hospitals, and panel practice; ante-natal, infant welfare, and child guidance clinics; tuberculosis dispensaries and orthopaedic centres; almoners and health visitors; *x* rays and physical medicine; mental hygiene, psychotherapy, and even the inferiority complex were unknown to our vocabulary. And to what cause is this beautiful enrichment of the English language to be

attributed? The answer to that question cannot be disputed, but is, in a sense, threefold. First, the unprecedented growth of scientific medicine during the last fifty years; secondly, the recognition by the State and the general public that the application of this knowledge can contribute materially to the safety, welfare, and happiness of the community; and thirdly, the very just demand that every member of the community, even the rich, should have the right to share in the benefits made available by the progress of knowledge.

Collective Security

It is not surprising that, in the haste to make practical use of new armour and new weapons, the war against disease has been conducted on a wasteful and ill-organized system. It is most satisfactory to learn that the State, represented by the Ministry of Health, the Medical Research Council, and local authorities; the profession, represented by our Association; and the public, represented by enlightened citizens who generously sacrifice much of their time and energy to voluntary organizations, are not only awake to the dangers of independent action, but are displaying an admirable willingness to pool their resources and to co-operate for the common good. If this spirit of collective security is not yet universal throughout the country I can assure you that it is very evident in the city and county of Oxford.

Underlying the whole problem of providing the population of this country, and indeed of any country, with an efficient medical service are the conflicting claims of time and money, and a few words on each of these will not be out of place. It is probably true to say that the time factor is not yet popularly recognized as the most important ingredient of efficient medical practice, and that every addition to the store of medical knowledge enhances its value. The more possibilities open to the mind of the doctor, the more paths of inquiry he is obliged to pursue, the more evidence there is collected to be weighed, the longer is the time he needs to do justice to his patient. The not uncommon belief that the speed with which a doctor arrives at a diagnosis is an indication of his professional ability rather than of his business capacity cannot be seriously supported, and even if it may be to some extent justified when a case of fully developed disease is placed before him it lacks all foundation when he is confronted with what are known as minor ailments. If the standard of health of the community is to be raised it can only be by the earliest possible detection of slight departures from normal health and by the prompt initiation of measures for their arrest. It is at this stage that recognition of illness is most urgent and fruitful, and it is then, far more than later, that the doctor requires time in order to bring all his knowledge and all his technical resources into action. Both oral and physical examinations of the patient involve expenditure of time, and in most cases the former is the more lengthy as well as the more enlightening piece of research if skilfully pursued. While opinions may differ as to the value of the *viva voce* in an Oxford honours school there can be no doubt as to its predominant worth in the consulting room. And if this is true in regard to the diagnosis of disorders which afflict the body it is certainly not less true when disorders of the mind are the subject of investigation.

Time and Money

Any medical service, therefore, which aims at the prevention and early detection of disease, to say nothing of the preservation of health, must provide the doctor with ample time to carry out his work, and, I have no hesitation in adding, the better educated the doctor the more time will he require. The chief flaw in a badly organized service, such as that which has evolved in this country during the last century, is lack of time, and both the general practitioner and the consultant, in order to earn a living wage, are frequently obliged to undertake far more work than they can deal with efficiently in the hours at their disposal. Under the present system it would be necessary to double the number of doctors in order to obtain an adequate service, and such a measure would rapidly lead to their starvation. That, in a word, is the problem before us, and if the community cannot afford to support a hundred thousand instead of fifty thousand doctors—and you will readily agree that it cannot—every effort should be made to ensure that time and energy, as well as money, are not wasted in any system of service we are engaged on developing.

Fortunately sciences other than that of medicine have not been idle meanwhile, and modern means of communication and of transport not only save valuable time but make possible the establishment of health centres where the personnel and special equipment necessary for skilled diagnosis and treatment are easily accessible to, and capable of serving, large surrounding areas of population.

But every medical man and woman within such an area must belong to the service. The day has passed when any doctor, whether in general or consulting practice, can legitimately pretend to carry on as an isolated and independent unit ready to meet all the requirements of his patients. In his own interests, as well as in those of his patients, he must be part of a team, recognizing the responsibilities and enjoying the advantages which teamwork alone can provide. And if time and money are to be saved there must be the least possible overlapping of duties, each member of the team having his own specific functions to perform in the general service. For similar reasons it is essential that the health centre should recognize practitioners within its area as an integral part of the scheme, each with a personal and privileged interest in its successful organization.

There are, indeed, two reasons why general practitioners should become more intimately associated than heretofore with the health centre of the area in which they practise. In the first place, a long experience as a member of the honorary staff of at least five different voluntary hospitals has convinced me that these institutions are all understaffed, and that in consequence the standard of efficiency is not as high as it should be or as it would be if general practitioners were more frequently asked to participate in the work. In the second place, the general practitioner would undoubtedly benefit if he could devote even two or three hours a week to responsible hospital work, thus keeping in touch with his colleagues in the service and abreast with contemporary increments of knowledge.

Health Centres

Perhaps I should indicate at this stage what I have in mind when alluding to the "health centre" of a district. It is not very easy to define, but I envisage a central board, based, geographically as it were, on the chief hospital, voluntary or municipal as the case may be, but representative of all interests and institutions concerned with the health of the district. Round the table would be seated not only the municipal lions and the voluntary lambs, but, where a medical school is included, delegates of the more academic departments of medicine. The chief duty of such a board would be that of co-ordinating all the preservative, preventive, and curative services within the district, of avoiding overlap and wastage, and of thus assuring the public that its financial contributions to the common cause of health, both voluntary and levied, are used to the best economic advantage.

It will be agreed, I think, that we have the materials ready at hand in most parts of the country for building up such health centres with their medical services, but much ingenuity and yet more good will are needed for the process of moulding and cementing their constituent portions. We may go further and agree that such an organization is the natural development of past and present services and capable of adaptation to modern conditions and requirements, while preserving all that is best of our old institutions and traditions.

So far I have sketched in rough outline a scheme of medical service which is designed, when sufficient pay-beds are provided, to meet the needs of all classes of the community, and submit that in general terms it represents the natural outcome of current developments. But when it comes to a consideration of the medical staff necessary for this service and the functions to be allotted to its various members I find myself on less secure ground. Perhaps you will grant me some measure of prophetic licence in regard to my suggestions. Taking, for example, a large centre serving a large area, based on a voluntary hospital with a medical school, associated with one or more municipal hospitals, some special hospitals, the local department of public health, and various ancillary services and clinics, and assuming the agreed establishment of some co-ordinating board and machinery, at least three questions need answers. What staff is required? What financial provision must be made for it? What kind of training does it need?

Problem of Staffing

The long-established system under which the large voluntary hospitals, with or without medical schools, have been staffed by doctors who earn their living in consulting practice and give their services to the hospital has been on the whole successful. The mixture of private and hospital practice has been educationally good for the doctor and has tended to keep up the standard of his work. It has the defect, to which I have already referred, that often he has more work than he can do satisfactorily in the time at his disposal, and little or no leisure in which to utilize his experience and his observations for the advance of knowledge. This could be remedied by increasing the size of the honorary staff of such hospitals, but the whole system is threatened by the establishment of municipal hospitals all over the country, which in the future will be equally well equipped, will afford the same opportunities for clinical study, and which will be prepared to pay for full-time or part-time service. This fact, together with the gradually increasing demand of well-to-do patients for treatment in hospitals, must inevitably lead to the disappearance of the purely honorary position of the staff in voluntary hospitals and to some system of payment for their part-time services. As the income of voluntary hospitals is becoming more and more dependent on the contributions of patients there seems to be no insuperable obstacle to bringing them into line with the modern municipal hospital in this financial as well as other respects.

Far more obvious and far more serious are the changes which, of recent years, have disturbed and still threaten the character, the scope, and the finance of general practice. Insidiously but steadily has general practice been lopped of many of its branches and, in the absence of any determined attempt to redefine its functions as an integral part of a large health scheme, its future is both uncertain and unattractive. This position has been reached partly, it must be admitted, as the result of the professional apathy, but chiefly in response to the demand of the public, for economic and other reasons, that various services, not entirely limited to the field of public health, should be controlled by local or statutory authorities.

Future of General Practice

On the other hand I fail to see why general practice should not assume a more important role in the future of medicine than it has played in the past, and at the same time re-establish some of the personal family doctor relationships, recently imperilled, on secure and useful foundations.

The general practitioner has often been called the backbone of the profession. He should, I suggest, in future be regarded as the finger of the profession, and, not being an osteopath, I assign to the finger far more valuable functions than those allotted to the vertebral column. Fingers are the most sensitive parts of our peripheral anatomy, the most highly trained instruments for detecting irregularities and abnormalities in the objects with which they come in contact, and it is to those fingers of the profession, the general practitioners, that we must look for the discovery of imperfections in our midst. That, in itself, is a task which, as I have already stressed, needs much time as well as skill, and it is only proper that those engaged on it should relinquish a considerable portion of their responsibility for the care of patients who are seriously ill and who will, inevitably, drift more and more to institutions for investigation and treatment. The saving of life has become the job of institutional team-work ; the saving of health and the prevention of illness, in the long run of far greater interest to the welfare of the community, must be initiated by the general practitioner in the home. But it is essential that, if this urgent task is to be performed efficiently, general practitioners should, as part-time officers, help to staff those medical services, preventive and curative, which have been diverted to the control of public health authorities. Otherwise overlapping of duties and waste of time and money are unavoidable, and, still more to be regretted, the personal interest of the general practitioner in the welfare of his flock will be dissipated by the frequent experience of losing touch with its members. It should be the obligation of the health centre, in its capacity of co-ordinator of all services, public as well as private, to make sure that general practitioners are rightfully regarded and employed as priests of preventive medicine.

Health Education

In adumbrating this evolution of general practice I have not been deaf to the popular clamour for education in the means of maintaining the health of the individual on the one hand and in raising the standard of health of the race on the other, and this call will be answered if the public come to look upon the practitioner as the protagonist of health as well as the alleviator of suffering, and if the practitioner is trained to supply the necessary information and advice. It is of interest, in this connexion, to note that the chief recommendations made by those who have recently considered the medical curriculum all indicate a recognition of the part which the practitioner will be expected to play in the future. Emphasis has been laid on the imperative need for a high standard of general education without which the practitioner's influence on the lay mind in matters of health lacks authority. Special prominence is given to the student spending more time than hitherto in acquainting himself with minor ailments, and all teachers of medicine and surgery are exhorted to bring before their students methods of preventing as well as methods of fighting disorders of the mind and body. Medical psychology and psychotherapy have now for the first time been given an assigned place in the curriculum, and, finally, the importance of some knowledge of genetics has not been overlooked. If these recommendations are really implemented we may hope that the general practitioner may retain

his position as the family guide, philosopher, and friend, and, at the same time, as part of an organized medical service, be able to command for his patients such special advice, skill, and equipment as are required to supplement his own efforts.

Research Centres

You may think it strange that in this place and at this time I have delayed so long any reference to the urgent call for more knowledge, to the paramount claims of medical research. The picture I have painted of possible, perhaps probable, developments in practice formed a necessary background to what I contemplate in regard to this pressing and difficult problem.

I have heard it stated that the level of British contributions to new knowledge in medicine has fallen in recent years and that the great advances in treatment have, in almost every instance, originated abroad. Be this true or not there can be little doubt that men with the flair for advancing knowledge have little encouragement to give adequate time to preliminary training in methods of research or to devote their lives to the prosecution of scientific inquiries. A living wage in these fields of labour is not easily obtainable, and promotion to posts free from financial anxiety is lamentably uncertain even to the most promising candidates. Although this defect has long been recognized, attempts to overcome it have met so far with no complete success. Is it possible that the establishment of organized health centres on the lines I have indicated may help to provide a livelihood for a limited number of men and women well qualified to promote our knowledge of health and disease?

It can hardly be denied that every large health centre, and certainly those embracing medical schools, should include among its activities a department of research. Such a department would need a small number of beds in one of the hospitals, special laboratory accommodation, a director, and assistants. The director and assistants would be whole-time officers, and their energies should not be dissipated in teaching or in carrying on private practice. Such a department would help to raise and maintain the standard of scientific medicine throughout the centre, and its doors would be open to any member of the staff of the centre who had the time and inclination and ability to join in the quest for knowledge. The main field of research in each centre would vary with the choice of the director, and it would be all to the benefit of progress if, for instance, in one place there was a bias in favour of surgery, in another in favour of neurology, and in another in favour of therapeutics.

If this principle is conceded, and to some extent it is already acted upon here and there in an undeveloped way, there still remains the desirability, if not the necessity, of providing at least one school in the country for training men and women the majority of whom would devote their lives to medical research, would not earn their living in practice, and would aspire to the position of the director of a research department in a large centre.

Such a school should have at least three departments representing the three great branches of clinical work, medicine, surgery, and gynaecology combined with midwifery, each under the direction of a recognized leader well fitted for the important task of linking observations at the bedside with those made in laboratories. It should be in close touch with physiological, biochemical, anatomical, pathological, pharmacological, and radiological institutions, and it should be free from any heavy burden of teaching medical students. In some respects, in its constitution and aims, it would play the part in academic medicine which the staff college plays in the military world ; that is to say, in advancing knowledge and in training officers for similar work in other fields. The resemblance is even stronger in that it would be a centre where men desirous of completing their education in scientific medicine could spend a period of time, perhaps two or three years, in pursuing research, before devoting themselves to teaching and consulting practice.

Research at the Bedside

Without desiring to join either the one side or the other in a current controversy as to the merits of bedside observations in advancing knowledge, I am convinced that in the future even the best clinician will need to keep thoroughly abreast with the methods, the meaning, and the language of the ancillary sciences if his investigations are to be blessed with success.

It must, I feel sure, have occurred to the minds of many that observations are constantly being made in the wards of a hospital which would bear rich fruit if cultivated in a pharmacological, physiological, or biochemical laboratory, and that the results of many laboratory experiments would stimulate new branches of inquiry at the bedside if the clinician and his scientific colleague were more closely associated in their daily work and had the time and opportunity to discuss their problems. In a medical school where research, and training in the methods of research, were the chief considerations such an atmosphere of collaboration could easily develop and many inspired thoughts, now born but to perish in the turmoil of teaching and practice, might grow to maturity. The day has come when we must recognize that not only time but skilled technique is required for the further disclosure of biological and pathological secrets, and that research, unwilling as we may be to admit it, must rank as one of the numerous specialties in the field of Medicine.

Conclusion

Rightly or wrongly, then, I envisage great modifications in both medical practice and medical education, the latter being influenced to a great extent by the special and various needs of the former. The large medical schools of the great cities will continue to educate candidates for general practice, modifying their curriculum, however, on the lines I have indicated, in order to equip the practitioner for his particular functions in the general scheme of medical service.

Candidates for consulting and teaching positions will need to supplement their three years of clinical training by post-graduate courses in special departments or by working for two or three years in an institute of research. A limited number of students with the inclination and capacity for a more academic career should have the opportunity of graduating in a school in which the scientific aspects of medicine occupy a prominent position and where they can pursue their post-graduate training in the methods and technique of research as a natural sequence to their undergraduate studies.

All the fundamental requirements for the organization of health centres and regional medical services throughout the country are in being, with the exception of a medical school largely devoted to the advancement of knowledge and to the training of those who, by ambition and ability, are fitted for a career in clinical research.

The suggestion has come to me from more than one quarter that here in Oxford are to be found the basic needs for such a school and the ideal atmosphere for its expansion. We have all the ancillary scientific departments, admirably equipped and ably directed ; we have a large and several smaller hospitals with ample and varied clinical material, and, in the Nuffield Institute, we have a magnificent structure near which, thanks to the munificence and foresight of its generous godfather, is the space for such further buildings as may be required.

An ambitious dream, perhaps, but, if it came true, the future growth and development of the Oxford Medical School would be more than worthy of its great traditions.

THE ABDUCTION METHOD

CONSIDERED AS THE EXPONENT OF SURGICAL PRINCIPLES IN THE ROUTINE TREATMENT OF FRACTURE OF THE NECK OF THE FEMUR *

BY

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I take the invitation to represent conservatism at this meeting as a formal endorsement of the proposition that I have upheld for many years—namely, that fracture of the neck of the femur is amenable to the rules that govern the treatment of other fractures, and is entitled, therefore, to the same consideration. What may be termed the old or negative standard which has determined the character of the treatment for the past hundred years may be credited to Sir Astley Cooper.[1] For, having demonstrated the inadequacy of artificial appliances to assure the essentials of repair, he succeeded in establishing legal immunity for the surgeon, on the ground that he could not be held responsible for a result over which he could have so little control. Cooper's conclusions were afterwards supported by investigations of the blood supply, which seemed to indicate that impaction, which preserved the continuity of the blood vessels and assured contact of the fragments, offered the only hope of repair. Finally, it was assumed that the fracture was essentially an attribute of old age. Thus the typical patient of the textbooks has always been of the type that would justify neglect of the fracture in the interest of the patient.

For these reasons, to quote from a standard American treatise,[2] "the ideal object of treatment, restoration of form and function, is rarely to be attempted or even sought." This conclusion as applied in practice is illustrated in a British textbook[3] published in 1932! "The patient should be propped up in bed with the limb between sandbags. After about a month the patient should be encouraged to use the limb as much as possible, since union is not aimed at." In theory this teaching applied only to the medial or so-called true fracture. Actually, the distinction between extra- and intra-capsular fractures until comparatively recent years was conjectural, and in quality treatment has been alike for all—symptomatic and perfunctory—"limited to making only so much reduction of deformity as can be expected by moderate traction, and to immobilization by cushions or by a fixed dressing."[4]

The results, both immediate and remote, were quite in accord with the negative standard. According to a Victorian authority[5] "our prognosis must always be unfavourable. In many instances the injury soon proves fatal, and in all the functions of the limb are forever impaired. No matter whether the fracture has taken place within or external to the capsule, whether it has united by ligament or bone, shortening of the limb and lameness are the inevitable results." Forty years later this prognosis was confirmed by a New York surgeon,[6] who, from observation of the treatment as conducted in three of the leading hospitals of that city, concluded that "if the patient escapes with his life he must be contented with loss of function, loss of symmetry and equipoise, even if he is not permanently crippled."

Anatomical Mechanics

From this introduction it will appear that the abduction method, which substituted anatomical for artificial mechanics, struck at the foundations of the old order. For by this means deformity might be corrected and displaced fragments apposed with ease and certainty, as was apparent on technical analysis and physically demonstrable. The application to the patient, however, of what is now classed as conservative treatment was quite another matter, since in applying it one must disregard all the time-honoured inhibitions. Thus the adventurous surgeon in correcting deformity might commit the "surgical crime" of breaking up an impaction, the only hope of union, and, in enforcing the necessary restraint, might imperil the life of the patient. Furthermore, the command of anatomical mechanics for the attainment of a definite purpose, to be supplemented by the construction of a comfortable and efficient plaster splint, required a much higher standard of technical preparedness than had ever been at the command of this neglected injury.

In the course of years, however, in spite of active opposition and the inertia of standardized neglect, the abduction treatment has come into general use, and this experience has discredited all the assumptions which have supported the negative standard. The fracture is relatively common at any period of life, even in childhood, and in the great majority of the cases effective treatment of the fracture is the most conservative treatment of the patient. For, paradoxical as it may seem, the plaster spica, which has always borne the brunt of the adverse criticism of the abduction treatment, by preventing bedsores and static congestion of the lungs, formerly the chief factors in the mortality rate, has made positive treatment of the fracture practicable even in old age.

Capacity for Repair

Of 441 cases of medial fracture treated by this method and reported by several observers, 126 were over 70 and fifty-seven were over 80 years of age. Successful results in the eighth and ninth decades have become commonplace, and one has been reported at the age of 102. Yet the mortality that can be attributed to the treatment must be small indeed, since in several hundred cases reported by different surgeons the average rate was less than 7 per cent.

In former years the capacity of the complete medial fracture for repair was a debatable question, and union was usually attributed to the character of the fracture rather than to the efficiency of the treatment. Thus, of 136 cases of medial fracture treated at the Charity Hospital of Berlin, reported by Hübner[7] in 1930, union was attained in but 6 per cent. Of 169 cases reported by Katzenstein of Berlin in 1928, the proportion of union was 11.6 per cent., which according to Axhausen[8], who discussed the paper, fairly represented the general experience.

The lowest percentage of union[9] reported of the abduction treatment is over 53. From this it ranges to 90 per cent. Henderson of the Mayo Clinic[10] estimates the prospect of repair at 90 per cent. in patients under 60 and at 65 per cent. in those beyond that age. Yet Stern[11] in a group of seventeen patients over 70 reported union in 78 per cent.

Thus far this exposition has followed conventional lines, in considering only the question of repair of the medial fracture. Those at the base have received little attention, because in the words of an authority, "they get well anyhow, under good or bad treatment." Yet in spite of this inherent capacity for repair this type of fracture furnishes a large contingent of the disability once supposed to be inevitable after this injury. Thus of 341 cases of fracture at the hip among the inmates of a Poor Law infirmary, reported by Stebbing, 67 per cent. were extracapsular.

Now that the positive standard has been established the correction of the deformity characteristic of fracture at the base is of equal importance to the adjustment of the fragments of the medial fracture. Since, therefore, both forms are treated effectively by the same method

* Read in opening a discussion in the Section of Surgery at the Annual Meeting of the British Medical Association, Oxford, 1936.

the old distinctions are no longer of any immediate therapeutic importance. From this standpoint the report of Löfberg[20] on 264 cases of fractured hips treated by the abduction method is of interest. In 172 of these the fracture was intracapsular. Bony union was attained in 67.5 per cent. and good function in 90 per cent. Ninety-two were extracapsular. In all of these union and satisfactory function was attained. The death rate was 6 per cent. It seems fair to conclude, therefore, that in this comprehensive sense one may count on satisfactory results in 80 per cent. of the cases in which the abduction treatment has been efficiently applied, as contrasted with 23 per cent. of the eighty-six cases of the same mixed types investigated by the British committee.

Operative Treatment

Operative intervention, with which conservative treatment is to be contrasted, has changed its status in recent years. Formerly the argument in its favour was based on the futility of conventional treatment. Even as late as 1924 Koenig[12] advocated immediate removal of the head and fashioning the base of the neck into an oval surface, which, when implanted in the acetabulum, might serve as a stable support in locomotion. The spiking operation also, with which this discussion is particularly concerned, was introduced by Nicolaysen[13] forty years ago as the only means of apposing the fragments securely. Its most notable exponent in recent years has been Delbet.[14] In 1921 he reported on thirty-five cases in which the fragments had been fixed by a screw. In four of these bony union was attained. Even this small proportion he considered as encouraging, as he had never before seen union of a medial fracture.

The present status of the spiking operation must be credited to Smith-Petersen.[15] He based it on the logical proposition that since the capacity for repair had been so amply demonstrated by the abduction treatment, the percentage of failure might be materially reduced by more accurate adjustment and fixation of the fragments. With this design the fractured surfaces were completely exposed, adjusted by direct manipulation, and fixed by the flanged nail, now generally adopted. In 1931 he made a careful report of the final results of seventeen operations, which from a personal communication I am able to complete to date. In a first series of 24 cases union was attained in 75 per cent. In a second group of 26 cases the percentage of union was slightly over 70. Several deaths occurred during treatment, but none was caused directly by the operation.

The experience of others has been less fortunate. Böhler,[16] for example, has reported on twenty-two of these operations; five patients died within a few days; there was post-operative infection in five; and in five instances it was necessary to remove the nail. Bony union was attained in 59 per cent.

The third form of operation, described by Johansson[17] in 1931, was a revival of the extra-articular method of Nicolaysen with modern improvements, making it a composite procedure. The fragments were apposed by the abduction method and fixed by the Smith-Petersen nail. His own contribution was the introduction of a slender drill as a guide, on which, after the adjustment had been verified by *x*-ray examination, the modified nail was threaded and driven home. This type of operation has been generally adopted because it is comparatively free from operative risk. Although the adjustment of the fragments cannot be as accurate as by the open method, the results are said to be even better, because of the lessened injury to the blood supply. The most attractive feature of the spiking operation to the surgeon is the relief from the responsibility that the construction and adjustment of the plaster spica entails; and to the patient the curtailment of the period of restraint and inactivity. Thus, according to Wescott:[8] "In a few hours the patient is ready for a wheeled chair and may at once if so disposed enjoy the use of crutches." Böhler permits weight-bearing in a month. Others are more conservative, but all consider the nail as a secure support independent of the progress of repair. Both Johansson and Wescott published their reports within a few months of the first operations and subsequent writers have been more concerned with the immediate treatment than with the functional results. Thus one might infer from the literature that the determining factor in success is the proper adjustment of the intramedullary splint.

Criticism of Operation

Smith-Petersen's report furnishes positive evidence to the contrary, for it demonstrates that this method, even in the hands of its originator, has not lessened the percentage of failure. Indeed, it might be suggested that the insertion of the nail must impair the capacity for repair by injuring the cancellous tissue on which it depends. Furthermore a certain degree of disintegration of tissue often precedes union, as indicated by shortening of the neck. In that event the fragments would be separated by the means designed to appose them.

The early resumption of activity as presented by Wescott, the most attractive feature of the spiking operation, is of doubtful advantage from the functional standpoint. The cortex of the femur in elderly subjects is often fragile and it might give way under the strain that leverage and weight-bearing must place upon the nail and thus prevent repair. The most constant factor in the disability once supposed to be inevitable after this injury is restriction of the range of abduction. Even after the limb has been fixed for weeks in full extension and abduction, it has been found necessary to carry out a routine of what the patients call stretching in these directions to check the tendency to progressive limitation of the range of motion essential to the normal gait. It may be questioned, therefore, if spiking the fragments will so reduce the sensitiveness of the joint during the prolonged period of repair as to control the tendency of the limb toward flexion and adduction so characteristic of injury or disease of the hip-joint.

As has been noted the object of the campaign that has been carried on for a full generation has been to establish surgical principles as the rule of practice. In the treatment of other fractures these principles may be applied by a variety of methods. In this instance, because of the shape and position of the neck of the femur, it is only by utilizing anatomical mechanics that the opportunity for functional repair may be assured.

According to Mosenthal[21] "the real obstacle to the adoption of the abduction treatment as a standard routine had been inability to meet its requirements." Yet in competent hands these requirements are very modest, since neither elaborate apparatus nor skilled nursing is essential, as is evidenced by the results attained under the hard conditions of country practice.

From this standpoint operative methods considered as a substitute for conservative treatment must have a very restricted scope, except, it may be suggested, in a new direction.

Thus far the leading hospitals have played a very minor part in the establishment of the positive standard. Now, however, an operative method that requires technical skill and the control of the accessories required to make it effective may open wards from which these patients in the past have been excluded.

Thus a further contingent may be diverted from the path which, according to Sir Robert Jones, has led the majority to the Poor Law infirmary.

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SHELLFISH AND THE PUBLIC HEALTH*

BY

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That sewage-polluted molluscan shellfish can transmit the infection of typhoid fever and other diseases to the human consumer was established beyond controversy about forty years ago, the names of Broadbent in this country, and of Conn in America, being conspicuous in this connexion. Public confidence received a severe shock, and ever since that time the industry in this country has been, and rightly, under a cloud. Although the incidence of typhoid fever from all causes has greatly diminished, cases attributed to the consumption of shellfish, some of them terminating fatally, are still reported from time to time; whilst cases of gastro-intestinal disturbance are by no means infrequent.

Apart from harbouring and transmitting pathogenic organisms, shellfish from unclean beds are manifestly a dirty food. How dirty it is may be realized when the list of unpleasant things which go down sewers is considered, coupled with the fact that an average-sized mussel or oyster can filter out, and retain within itself for a considerable period, practically all the suspended matter from at least ten gallons of water in twenty-four hours.

It may be said that, had we set out to devise a method of ensuring the continued existence of typhoid fever in this country, we could hardly have thought out a better plan than that of turning out the crude sewage from large centres of population on to a shellfish bed, and then distributing such shellfish all over the country. The success of our experiment might be doubly assured by importing, as we do, shellfish from countries in which the incidence of typhoid is much greater than in our own. The intentional pollution of a dairy water supply would hardly be as efficient; at any rate, any resulting infection would tend to be spread over a less wide area. The disposal of sewage by discharge into the sea, etc., is described as "purification by dilution." In the presence of shellfish the process might almost be described as "purification by concentration."

The role of shellfish as agents in the perpetuation of typhoid fever was emphasized by Sir George Newman, in a Report issued in 1920: " . . . as long as sewage-polluted shellfish are consumed by large numbers of the population, it is doubtful whether the incidence of the disease [typhoid fever] will be reduced much below its present level." Since that date the amount of sewage discharged in the vicinity of shellfish beds has increased. Migration to the coastal areas, due to increased facilities for locomotion, has been one of the chief factors at work.

*Read in opening a discussion in the Section of Public Medicine at the Annual Meeting of the British Medical Association, Oxford, 1936.

Previous Remedial Measures

Attempts to grapple with the situation have been made, but the measures adopted have been ineffective. Removal of pollution by the deviation of sewers is impracticable owing to cost. Processes for treatment, or so-called purification, of sewage offer no solution of the problem. Sterilization of sewage effluents by chlorine has been successfully applied on a small scale, but the costs of installation and proper supervision of operations put it out of court as a safeguard of general application. Relaying on unpolluted ground is impracticable, especially in the case of mussels, for which suitable relaying grounds can rarely, if ever, be found. If they could, the cost of inspection to ensure that the relaying was properly done, and that the shellfish were not repolluted by storage in foul inshore waters prior to marketing, would be prohibitive. Moreover, relaid polluted mussels rapidly foul relaying grounds, rendering them a source of danger. Several mussel-relaying schemes were inaugurated some twenty years ago, and one at least is still operated in a desultory fashion, but the conditions are such that improvement in the mussels can hardly be looked for. Oyster relaying is practised on a somewhat larger scale, but in no case are conditions ideal, and in certain instances they are open to severe criticism.

Closure of polluted fisheries by Administrative Order, under the Ministry of Health Shellfish Regulations (1915 and 1934), has been resorted to on a considerable scale, approximately two-thirds of the mussel beds in England and Wales being closed. A similar ban has been placed on certain oyster fisheries. In view of ever-increasing pollution, further restrictions would appear to be inevitable. The resultant gap in the supply is filled, to a large extent, by imported shellfish; but these, in turn, are often seriously polluted.

Wholesale closure of shellfish beds, while crippling the home industry, fails to provide adequate protection from the public health point of view. The Public Health Acts interdict only the taking of shellfish "for sale, distribution or exposure for sale for human consumption." Anyone is at liberty to collect shellfish for his own consumption, or for sale for bait. Evidence is not lacking that mussels, ostensibly taken for these purposes, find their way to local and remote markets. The difficulty of presenting evidence sufficient to secure a conviction for these evasions of the Closing Orders, together with the lack of enthusiasm sometimes displayed in the administration of the Orders, accentuate the unsatisfactory nature of the position. (In two cases, control of a fishery is secured by Regulating Order under the Sea Fisheries Act of 1868, the taking of shellfish for *any* purpose, except deposit for purification, being banned; but legal and other considerations render unlikely further resort to this procedure.)

Purification Systems

The conclusion that we must accept a gross and constantly increasing sewage pollution of shellfish beds as an accomplished and *unalterable* fact is inescapable. Twenty-one years of study of shellfish and close association with the shellfish industry has confirmed my original conclusion that the only solution of the problem lies in the application of a satisfactory system of purification, under con-

ditions which will ensure the elimination of breakdown through carelessness and evasion. Experience has emphasized that such conditions can only be secured under a system of stringent Government control. The only practicable form of purification must be one carried out under "artificial" conditions in tanks. The alternative would seem to be that sooner or later molluscan shellfish, as a whole, will have to be officially banned as a dirty and dangerous food.

Any system of purification must satisfy three conditions:

1. It must provide a satisfactory safeguard of the public health.

2. It must be uncomplicated—that is, fool-proof in operation.

3. The cost of efficient working must not be disproportionate to the market value of the shellfish treated.

The Ministry of Agriculture and Fisheries has operated a system of mussel purification at Conway for the last twenty years. Another plant was installed at Lympstone on the Exe, but operations were discontinued after two years owing to failure of the fishery. A similar installation, erected in 1935 by the Lancashire County Council at Lytham St. Annes, has been in operation for one complete season. An oyster purification plant was installed by the Brightlingsea Urban District Council in 1933-34, and has been in continuous operation for two years.

Steps in Purification

It will be convenient first to describe the various steps in the process, deferring until later consideration of underlying principles.

Mussel Purification (Conway System)

The installations consist of four reinforced concrete tanks.

No. 1. Storage Tank.—Capacity 90,000 gallons. Estuarine water is pumped into this tank at or about high water and stored until required. (This storage tank is unnecessary in places where sufficient water of the right salinity can be obtained on one tide.)

No. 2. Chlorinating Tank.—Capacity similar to No. 1, from which it can be filled in about twenty minutes (by gravity or by pumping).

Nos. 3 and 4. Mussel Purification Tanks.—Capacity, each, 40,000 gallons. The floors are sloping, and divided into parallel channels by concrete ridges which support wooden (pitch pine) grids. By a system of penstocks or sluices the under-grid channels can be flushed out. The mean depth of these tanks is three feet. The capacity of each tank is six tons, or about 150,000 mussels.

A solution of bleaching-powder is added to the polluted water as it enters the chlorinating tank, in quantity sufficient to give a concentration of active chlorine of three parts per million. The water is allowed to stand over one night, when sterilization is complete.

Steps in the Purification Process

I.—The polluted mussels are spread, about two deep, on the grids.

II.—The mussels are hosed with a jet of water (about 130 lb. per square inch pressure) which removes adherent mud, weed, etc., from the shells, and washes it through the grids into the sloping channels which are flushed by water from the penstock sluices.

III.—The tanks are filled with sterile sea-water from the chlorinating tank. To the in-coming water is added a solution of sodium thiosulphate (hyposulphite) sufficient to neutralize any trace of active chlorine which may remain. In this bath of sterilized chlorine-free water the mussels remain one night. Into it they discharge all foreign matter, including bacteria, from their intestines, mantle cavities, etc., in the form of fine threads or small pellets held together by mucus. These fall to the bottom, the bacteria discharged with them remaining imprisoned in the tenacious and practically insoluble mucus.

IV.—(After 24 hours). The first bath is drained off, and the mussels are again hosed, the matter discharged by the mussels (faeces, etc.) being washed through the grids and flushed away.

V.—Second bath of sterile dechlorinated water, in which the mussels remain another night. The object of this second bath is to get rid, *via* mucoid faeces and pseudo-faeces, of any bacteria discharged free into the water and re-ingested.

VI.—(Second 24 hours). Second bath drained off. Mussels hosed and channels flushed, as in "II."

VII.—Mussels covered for one hour with sterile sea-water containing three parts per million active chlorine, with a view to sterilizing the outside of the mussel shells, grids, and tank walls, to which bacteria—some of them released from faeces, etc., during hosing—may be adhering. (There is no danger of such bacteria being splashed inside the shells, because the mussels remain tightly closed. It may be emphasized that this final bath (of one hour's duration) is the only occasion on which the mussels are exposed to active chlorine.

VIII.—Shell-sterilizing bath drained off. The fishermen, after walking through a bath of 1 in 10,000 active chlorine, to sterilize their boots, enter the tanks and pack the mussels in sacks sterilized by 1 in 10,000 chlorine solution. The sacks are sealed with a safety lead bearing the date and the legend "M.A.F. Conway" (or "L.C.C. Lytham") and are dispatched to market.

Oyster Purification (Brightlingsea)

The general scheme of operations is similar to that employed in mussel purification. Certain modifications, to meet special conditions, are, however, necessary.

Unlike mussels, which will function actively at temperatures little above freezing point, oysters will not function at all at temperatures below about 40° F.; and if vigorous functioning, consistent with rapid and efficient self-purification, is to be secured, the water-temperature should not fall below 54° F. It follows that purification tanks for winter use (say September—May) must be under cover, and means must be provided for "taking the chill off" the water and maintaining it a steady temperature by warming the air in the tank shed. The water in the combined storage and chlorinating tank (also covered) is therefore warmed by a hot-water circulation from coke-fired boilers. This tank is in four sections, two of which are independently heated, with connexions which render easy the obtaining of water of the required temperature, by suitable mixtures if necessary. The range of temperature allowed in the purification tanks is 54° to 58° F.

At Brightlingsea the largest output is during the months of June to October, the oysters being mainly relaid Portuguese and American. To deal with these, uncovered purification tanks similar to those used for mussels are provided. Owing to the more spasmodic demand for oysters than for mussels, additional tanks are provided in which treated oysters can be stored, with daily changes of sterile water, until required. The maximum time of storage allowed is seven days.

The flat shape of the oysters favours lodgement of mud and other material beneath them during hosing. A special hosing device, with multiple jets which scour in all directions round and under the oysters, has been devised, and is completely successful. The oysters are packed in sterilized barrels, baskets, and bags, which are secured with a safety lead seal bearing the date and a device "Briten." The tanks are designed to carry an output of 360,000 per week, which is reached at peak periods. The output during the first two years' working has been about 3,000,000 per annum.

Rationale of Shellfish Purification

It will have been gathered that, as far as the shell-contents are concerned, auto-purification alone is relied upon. By means of a series of ciliary mechanisms mussels and oysters can extract and concentrate the suspended

matter from at least ten gallons of water in twenty-four hours. Part of this material is ingested by the mouth, and ultimately discharged as faeces. Surplus matter, in excess of what can be ingested (and when the water is turbid it may form the bulk), is collected and rejected from the shell as pseudo-faeces.

The outward and visible sign of efficient functioning of the shellfish is the clearing of the tank water. Within a couple of hours or less, the water, often very turbid, becomes glass-clear ; suspended matter, even as fine as clay apparently in the colloidal state, being filtered out and thrown down to the bottom as true or pseudo-faeces. A certain number of bacteria are passed through the filtering mechanism free into the water, but this number is reduced at each successive filtration. The efficiency of the filtration may be gauged by the fact that the whole of the water in the purification tank (40,000 gallons) may be refiltered some twenty times overnight. Criteria of normal functioning of the shellfish are afforded by the clearing of the water, the quantity and appearance of the faeces and pseudo-faeces, and (in the case of mussels) the formation and number of anchoring threads (byssus). Suspended matter stimulates active functioning and the secretion of mucus. Initial cloudiness of the water is therefore an advantage. Pre-filtration would not only be a needless complication, but undesirable.

Prolonged experimentation has failed to reveal any chemical sterilizing agent which can be used with success for the direct purification of shellfish. Chlorine, various hypochlorites, and simple and compound chloramines have been tried, but all of them interfere with normal functioning and elimination, and either prevent purification or prejudice it in some degree.

In the final shell-sterilizing bath, the shellfish remain closed until the chlorine concentration has run down to below one per million. They may then open their shells, but they do not function or pass current.

As a general rule mussels can tolerate prolonged immersion in water containing active chlorine, opening and functioning normally as soon as the chlorine is discharged. A small percentage, however, may fail to function properly for twenty-four hours or more after the chlorine has disappeared. Such mussels will not undergo purification. It is for this reason that shell sterilization is postponed until after the second purification bath.

An additional precaution taken at Conway was the installation at the local isolation hospital—the effluent of which discharges into the estuary—of a plant for the incineration of dejecta, and the sterilization by chlorine of sullage from the typhoid block. Danger from effluents from such hospitals may be overlooked. In more than one case creeks selected as relaying grounds, for cleansing purposes, received such effluents.

The taking of shellfish in the immediate vicinity of sewer outfalls has been interdicted at all the purification stations. The prohibited areas extend for a quarter to half a mile from outfalls. The ingestion of particles of solid faeces, paper, etc., was considered particularly obnoxious (for reasons which cannot be considered in detail here), and the precaution mentioned was taken to minimize this danger.

Degree of Cleansing Achieved by Treatment

During the initial experimental stage, extending over sixteen months (1916-17), a continuous series of experiments demonstrated not only the futility of attempting direct purification of mussels by the use of bactericides, but also that a two-day system, depending on self-purification and conducted on the lines indicated above, achieved a reduction of lactose-fermenting bacteria from an initial content of some hundreds per 1 c.cm. (on occasion thousands) to one varying from 0 to 5 per 1 c.cm. Extension of the treatment beyond two days did not affect the end-result.

In view of these findings, it was considered justifiable to place treated mussels on the market, under bacteriological control. (The first five batches were kept in the tanks for three days, in order that the result of forty-eight hours' treatment could be known before dispatch.) Although the mussels were on the market, the process was, of course, still *sub judice* and on an experimental basis, the intention being to close down in the event of unsatisfactory results, unless they were due to some obvious and remediable cause.

Fifty-two six-ton batches were marketed (September, 1916, to March, 1917). In spite of extreme vicissitudes of weather (heat, cold, and excess of fresh water) the bacteriological results consistently confirmed those of the first experimental period. The lactose-fractor content was ascertained before treatment, and after twenty-four and forty-eight hours. The untreated mussels contained from 35 to 5,000 per 1 c.cm., the usual number being between 200 and 300. Five mussels were tested separately (1 c.cm. minced) after treatment, the cultures (MacConkey agar) being read after twenty-four hours' incubation at 37° C. The results were as follcws:—Ninety cultures were sterile, while fifty-five, forty-seven, thirty-five, twenty-three, and twelve showed one, two, three, four, and five colonies respectively.

It was considered that the first season's results demonstrated the purification process to be a sound working proposition. A bacteriological standard for purified mussels—not more than five lactose-fractors per 1 c.cm. minced mussel—had automatically emerged. Close bacteriological control was discontinued: one cogent reason being the wide extension of activities consequent on the establishment of the process, which made an excessive demand on the—if we may so describe it—*multum in parvo* organization of the shellfish department of the Ministry.

Analyses were of course made from time to time, including comprehensive consecutive series over periods of two or three months, in association with ancillary researches and sanitary surveys of shellfish beds in which purified mussels are laid down to serve as indicators of sources of pollution. The mussels from the Lympstone station were thoroughly tested during the period of the operations. Moreover, at some of the markets to which the mussels are sent a close bacteriological control is exercised. The results of analyses were consistently satisfactory. However, at the outset of the last two seasons certain anomalous results were noted, those occurring during last year (September-October, 1935) being the most marked. Before dealing with these further, a digression in respect of oyster purification may be made.

Oyster Purification

During the first year of the mussel experiment it was noted that oysters, although capable of self-purification on the same lines as and to an equal degree with mussels, failed to function at the low temperatures at which mussels are quite happy. Following small-scale experiments, a series of covered and warmed tanks was installed at Conway. These tanks, although small, were large enough to serve as criteria of working on a commercial scale.

During six winter seasons intensive experimentation was carried out, embracing design of tanks, determination of the optimum temperature for purification, and trying out the process on an adequate scale with "Native," Portuguese, and American oysters. For some time a three-days process seemed inevitable, but ultimately a process taking forty-eight hours was evolved, the "standard" achieved being similar to that for mussels, namely, not more than five lactose-fractors per 1 c.cm.

This was put into commercial operation at Brightlingsea in 1934. If any qualms were felt about purification, it was in respect of oysters, owing to the more complicated technique and their somewhat capricious functioning as compared with mussels. It is particularly gratifying, therefore, to note that the results of two years' working have shown markedly better results than those of the experimental period.

A series of analyses was carried out, at the outset of operations. During the last season weekly samples of ten oysters have been tested, each by three separate methods. For practical purposes all the batches have shown complete purification. The number of lactose-fractors to be expected in the polluted oysters (based on a long series of analyses) ranged up to eighty per 1 c.cm., the average running in the forties and fifties. After purification the results were as follows:—

MacConkey agar (1 c.cm. of oyster): 261 plates were sterile; nine and two plates showed one and two red colonies respectively.

By the Fishmongers' Company's test twenty-eight were "100 per cent. clean," and three were "90 per cent. clean." (There were 280 tubes sterile, and three with acid and gas.)

By test by Dr. Henry's technique (see below), twenty tests showed no lactose-fractors; six showed two (minimum possible), and one showed four lactose-fractors. (These tests represent 405 tubes, 402 being negative after forty-eight hours.)

Reports of numerous tests by municipal and other authorities are to hand, and show 100 per cent. clean throughout.

Anomalous Results of Mussel Treatment

The routine practice adopted was to count all red colonies on MacConkey plates after twenty-four hours' incubation at 37° C., because additional colonies often appeared between twenty-four and forty-eight hours. These were almost always punctiform, and the great majority proved to be Gram-positive staphylococci. On occasion, especially during experimental periods and in cultures made after twenty-four hours' treatment, such colonies appeared in considerable numbers at twenty-four hours. Again, practically all were staphylococci.

At the beginning of the 1935-6 season (and to a lesser extent at the outset of 1934-5) a new phenomenon presented itself in the case of both Conway and Lytham treated mussels. After one or two exceptionally good results, a period of abnormal bacterial counts set in and lasted, off and on, for about six weeks (somewhat later at Lytham). Thereafter, the counts became normal again, and remained so, with one exception (every batch marketed being examined) until the end of the season (April 30th, 1936).

The plate counts were not merely outside the normal, but excessively so; some hundreds of red colonies came up within twenty-four hours, while counts with Dr. Henry's technique were, on occasion, as high as 900 per 1 c.cm. Attention was also drawn by Dr. Newsholme to similar counts being obtained with mussels taken at Birmingham. It is interesting to note that tests by the Fishmongers' Company's method (twenty-four-hour counts) presented a less disquieting picture. At Conway, out of sixty-eight batches tested, forty-two were "100 per cent. clean," sixteen "90 per cent.," five "80 per cent.," one "70 per cent.," three "60 per cent.," and one "50 per cent." With Lytham mussels low percentages were more frequent: three were "0 per cent.," and one each "20 per cent.," "40 per cent.," and "50 per cent." The mussels were sent by post, and are more heavily barnacled than Conway ones—points of some significance.

During the "abnormal period" and for a couple of months thereafter three, and at times four, days were allowed for treatment, and two daily baths given instead of one. Though improvement over the two-day results occurred, these measures showed that the time factor was not the solution, although during their employment no complaints were received from the markets.

The problem has been under intensive investigation in all its aspects since the outset. The tank operations, chemicals used, etc., were vetted, without result. The functioning of the mussels was investigated at Conway and Lytham (mobile laboratory). A suggestion that excessive freshets after lengthy drought might have lowered the vitality of the mussels was investigated, with the help of deep-sea mussels. The results, though suggestive in one case, were inconclusive. An abnormal mussel tank mortality at Conway coincided with the earliest abnormal results, and a mass mortality on the Lytham beds was noted, but neither can be claimed as giving the clue.

Bacteriological Results

From the bacteriological investigation (still in progress) very suggestive results have been obtained, which must be dealt with in detail elsewhere.

The main relevant points which have emerged are:—

1. That barnacles, with which many Conway and almost all Lytham mussels are thickly studded, may harbour lactose-fractors in excessive numbers. Multiplication in the barnacles of bacilli (see 3 below) seems more than probable, but it is not proven. Early experiments appeared to show that barnacles underwent self-cleansing equally with mussels.

2. That the lactose-fractor content of stored mussels, for example, at the markets, may significantly increase; probably, on occasion, due to reinfection from barnacles crushed in transit, and/or multiplication of residual organisms of the type indicated in 3 below.

3. That at any rate a large percentage of the "residual" lactose-fractors (A and unequivocally G) are Gram-negative bacilli morphologically resembling *B. coli*, which grow best at 20° C., are Koser-positive, and *liquefy gelatin*. A recital of their reactions to the dozen or more stock fermentation tests, or discussion of the labels to be affixed to them, would merely obscure the issue.

4. That some of the above bacilli not only survive for long periods, but may rapidly increase in numbers in sea-water.

5. That staphylococci (producing acid but no gas with lactose), which formerly constituted the majority of residual organisms (Conway and Lympstone), are at present conspicuously absent, being replaced by lactose-fermenting (AG) bacilli, as above.

On many occasions 1 c.cm. of crushed barnacles (one mussel may carry 15 c.cm. of barnacles) on treated mussels—often themselves clean—has yielded some 10,000 lactose-fractors. In one case barnacles on clean Lytham mussels after sixteen days in tanks (held up by weather) gave such a result. Prick-outs proved to be gelatin liquefiers. On inoculation into sterile sea-water (at room temperature) one bacillus (No. 12) increased from some 20 to 2,000 per 1 c.cm. in five days, and became uncountable (over 18,000 per 1 c.cm.) after nine days. After five weeks there were still some 150 per 1 c.cm. Another bacillus (No. 23) gave similar results, and is still (May 14th, 1936) going strong after ten weeks in sea-water. Somewhat similar results have been obtained with bacilli isolated from Conway-tested mussels, both immediately after treatment and on return from Birmingham market: for example, of twelve consecutive residual prick-outs, all giving acid and gas with lactose, nine were gelatin liquefiers.

ASSOCIATED EXPERIMENTS

During the season a series of parallel experiments has been carried out in collaboration with Dr. Newsholme and his staff, the results of which have been most helpful. Treated mussels have been tested at Conway, and on arrival at Birmingham, whence further samples taken in Birmingham market have been analysed in both laboratories. The

general trend of results has been to show a tendency to increase in the lactose-fractor content in transit. In one case the increase (in returned mussels) was very large, but the evidence available points to the increase being in gelatin liquefiers.

One of the three routine tests applied at Conway has been by the technique used by Dr. Henry, bacteriologist to the Birmingham Public Health Department. He uses the method recommended by the Ministry of Health (Report No. 71, "The Bacteriological Examination of Water Supplies," 1934), adapted by him for shellfish examination. Quanta of minced and shaken shellfish representing 0.1, 0.01, and 0.001 c.cm. of shellfish are incubated in liquid MacConkey medium (fifteen tubes) and the results interpreted according to McCrady's tables (*loc. cit.*)—a valuable addition to laboratory technique.

Conclusions

With regard to the value of lactose-fractors as "bacteria of indication," of 1,666 prick-outs from polluted shellfish examined during sanitary surveys, etc., 1,471, or 88 per cent., were lactose-fractors. Of 1,284 prick-outs of residuals after purification, 427 (33 per cent.) were positive. Had gelatin cultures been made, the necessity for considerable modifications in the interpretations now seem probable. In the first group, however, conclusions have always been predominantly based on topographical considerations, which in my view, frequently expressed, are all-important. The "pollutability" of layings, etc., must be the criterion, bacteriological examination being merely ancillary, often unnecessary, and sometimes misleading. This view coincides with that expressed by the Ministry of Health in an explanatory circular issued with the "Public Health (Shellfish) Regulations, 1915."

In view of the facts emerging from the recent work outlined above, bacteriological procedures as applied to the examination of shellfish at the markets, etc., would seem to be again in the melting-pot (if, indeed, they ever emerged therefrom). The lactose-fractor criterion *ad hoc* (of which I have hitherto been a strong advocate) is no longer adequate. The liquefaction of gelatin places the organisms dealt with above outside the range of the "coli-aerogenes" and other controversies. More ink has been spilled over *B. coli* and its congeners than over any other subject outside, perhaps, the realms of religion and politics. As far, however, as I am aware, the prophet has yet to arise to assert that a gelatin-liquefying bacillus, especially one which thrives and multiplies in sea-water, and objects to conditions prevailing in the mammalian gut (temperature, etc.) is of significance as an indicator of pollution of intestinal origin. Whether the prevalence of such organisms is sufficient explanation of the anomalous results aforesaid, only time and prolonged further research can demonstrate.

Purification Results from the Public Health Standpoint

In judging a source of supply, epidemiological evidence must afford one of the most important criteria; a fact emphasized in the Ministry of Health Circular quoted above. Since operations began, twenty-one years ago, only one complaint has been received. Several persons suffered from symptoms of food-poisoning, but on investigation it was found that one of the chief sufferers had consumed no mussels!

In pre-purification days a constant series of complaints was received from responsible quarters, attributing outbreaks of disease, including many cases of typhoid, to the consumption of Conway mussels. The immediate and complete cessation of such complaints with the advent of purification may have considerable significance.

HEARING AIDS*

BY

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In the past otologists have, unfortunately, overlooked any mechanical means which would help their patients to hear. It is only within recent years with the advance of telephonic science that the possibility of aids to hearing has been discussed, but meantime the daily papers have been flooded with advertisements for electrical aids, and people grasping for any means to keep in touch with the world have been mulcted of sums far beyond the value of the instruments supplied.

In an old edition of *Aural Surgery*, printed in 1863, there is a curious appendix on aids to hearing. The opening paragraph is, I think, worth quoting:

"As soon as the power of hearing in both ears is so much impaired as to render ordinary colloquial intercourse difficult or altogether impossible—a condition which may terminate in the members of the patients' own family finding it difficult to communicate with him, even when in close proximity—and when no relief can be obtained from the resources of medicine, acoustic apparatus must be employed. These vary as much in shape as in the material of which they are constructed, and are yet of but little service to the patient, which need not surprise us, when we reflect upon the extremely imperfect knowledge we possess of the laws of acoustics and of the physiological importance of the several parts of the organ of hearing. For those who are hard of hearing, the simplest mode of relief is to direct the auricle forwards, either with the whole hand, which increases the surface for the reflection of sound, or with the finger only."

An otologist cannot be justified in sending away a patient whose hearing he fails to improve without discussing with him the possibility of an aid to hearing, and if surgical or medical methods be deemed useless an aid to hearing of some kind may be possible.

Non-electrical Aids

It should be for the otologist to advise the particular type of aid which would be beneficial to the patient. To do this we must be familiar with the various types, otherwise the patient will be left in the hands of purveyors of instruments who in many cases are seeking their own ends and not the entire interest of the patient. Hearing aids at one's disposal are of two main types, non-electrical and electrical. Instrument makers are making the non-electrical aids to hearing as inconspicuous as possible. There is the type which used to be worn concealed by the hair. Modern hair-dressing has, unfortunately, done away with this concealment and now the hearing auricles may be worn immediately over the ears. There is the ordinary horn type of various forms, the banjo type, and the box resonators. All these models may be camouflaged, their colouring approximating to that of the hand or dress.

The public must be re-educated in the use of these non-electrical aids to hearing. The moderately deaf person should not feel conspicuous in using an ear trumpet. Glasses are prescribed as an aid to vision. An ear trumpet is prescribed as an aid to hearing. The wearing of glasses is not a source of amusement—the use of an ear trumpet should not be a source of ridicule. In this category of non-electrical aids to hearing there are the ordinary speaking tubes, non-aural or binaural, which are of use in the family circle to the very deaf.

* Read in opening a discussion in the Section of Oto-rhino-laryngology at the Annual Meeting of the British Medical Association, Oxford, 1936.

Electrical Aids

Electrical aids to hearing may be divided into two groups:—

1. The popular type in which there is a small carbon microphone with a small dry cell and amplifier. The receiver is designed either to wear in or over the ear, or behind the ear for bone conduction.
2. The valve amplifier for increasing the range of the microphone, and a receiver. Modern methods of manufacture allow them to be reduced in size to less than a lady's small handbag. Naturally they are more conspicuous than the ordinary telephone type because the amplifier and microphone have to be carried in the hand instead of being about the patient's person. There is no doubt, however, that the valve type gives better amplification and is comparatively free from distortion and noise.

Electrical aids to hearing have proved in the past a source of income to the manufacturers. Instruments costing about one pound to make have been marketed at fifteen to twenty pounds; the testing of these instruments has been inefficient and without due regard to the individual case. In the past some firms have not been content with Press advertising, but have employed travellers to hawk their wares on the door-step. Thousands of these aids have been sold before the profession, and more especially the otologists, have wakened to the fact that those who are hard of hearing must be protected.

It is essential that the standard of the performance of the electrical aid must be fixed so that a suitable instrument can be prescribed accurately, and, once fitted, properly tested. To-day many firms have adopted this attitude and have fitted up their own testing rooms and there try out various types of instruments on the patient. One interesting sequel of this attitude has been the lowering in price of many of the electrical aids to hearing. It is unfortunate that for business reasons, or for the sake of appearances, an inconspicuous aid is being demanded; and it must be realized that the smaller the aid the less effective it becomes, and this also must hold for bone-conduction aids. The hard of hearing do not want to parade their disability, which is often to their social and economic disadvantage, but if it were realized generally that the use of a suitable aid lessens the hearing strain and thus improves the general outlook and ability, then appearance would become of minor importance. It should be our aim as otologists not only to aid the deaf but to educate the general public in its attitude towards the user of a hearing aid.

Prescribing of Aids

In prescribing an electrical aid it must be recognized that certain hearing defects may possibly be increased by an electrical aid; for example, a mixed middle and inner ear deafness with a marked lowering of the upper tone limit cannot be a suitable case for an electrical aid, which, although it may improve the hearing temporarily, in the long run will increase the nerve defect. Similarly it is inadvisable to prescribe an electrical aid in a case of senile nerve deafness, although a non-electrical aid to hearing would lessen the constant strain. In many cases where there is a marked loss of the cochlear response amplification of the sounds of an electrical aid would only lead to confusion. These few examples go to show that aids to hearing must be accurately prescribed.

The days are now past when the public buy spectacles over the shop counter. The opticians have combined among themselves in the drawing up of a scheme of registration. Although there is no statutory recognition yet the registered optician has had some training and experience in sight testing and has a modicum of knowledge of the possible diseases causing defective sight. If any disease is suspected the case is referred to an ophthalmologist.

This scheme has very obvious defects—but a similar scheme applied to the prescribing and testing of aids to hearing would be far superior to the haphazard way it is done at present. Aural clinics should have similar facilities. Patients should not be left to their own devices when obtaining aids to hearing. The common experience of us all is to interview hospital patients already equipped with expensive aids to hearing which on test are absolutely useless. Lectures on diseases of the ear, nose, and throat at present contain no reference to acoustics. The audiometer and the audiograph should be more familiar to all in our specialty. The pure tone method leaves something to be desired as the rectifying property of the ear is left out of consideration—that is, the ability to supply overtones or monotones which comes into perception of speech. Some method of testing by actual speech should be our aim where not only the loss of pure tones but also the loss of intensity of speech could be measured.

Fortunately, our knowledge on the subject is being advanced daily, so this paper is simply a plea for consideration of the whole question of the demand and the supply for aids to hearing. Now that modern science can supply better and more effective aids these must not be haphazardly foisted on unresponsive ears. I welcome the pamphlets issued for the protection of the deaf by the National Institute for the Deaf, but publications of this description should be given a wider and freer publicity.

AN UNUSUAL CASE OF JAUNDICE IN A MINER

BY

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The following case illustrates the fact that an isolated positive serological test in the case of a patient suffering from jaundice is not necessarily diagnostic of Weil's disease if there is any chance of agglutinins being present in the blood owing to a previous infection. This is analogous to the significance of the absence of a rise in titre of the serum in typhoid suspects who have received a prophylactic inoculation.

It is now well known that Weil's disease occurs more frequently in certain occupations than in others; for example, in sewer workers (Fairley, 1934; Alston and Brown, 1935; Alston, 1935), fish workers (Davidson *et al.*, 1934), and miners (Buchanan, 1926; Swan and McKeon, 1935) the incidence is distinctly greater than in other occupations in which the risk of exposure to the dejecta of infected rats is less. When, therefore, jaundice occurs in a patient engaged in one of these occupations the probability of it being due to Weil's disease must naturally be considered, and every means in our possession must be brought to bear upon the differential diagnosis from other forms of jaundice.

Diagnostic Criteria

The disease which is most likely to be mistaken for Weil's disease is infectious catarrhal jaundice; when the latter occurs in epidemic form, affecting as it generally does mostly children, no difficulty will be experienced in differentiating it from Weil's disease. When, however,

an adult is attacked by the severe form of this disease characterized by haemorrhages, intense jaundice, albuminuria, and conjunctival congestion the clinical differentiation of the two diseases is by no means easy. It is in these cases that the laboratory findings are of the utmost value.

In the first place, in the absence of any conditions such as a septic focus which would affect the blood picture, the differential blood count is of great importance. In catarrhal jaundice Findlay, Dunlop, and Brown (1931) found a very distinct relative mononuclear increase. A typical count would be: polymorphonuclears 51 per cent., small lymphocytes 41 per cent., large mononuclears 3 per cent., eosinophils 4 per cent., mast cells 1 per cent. In Weil's disease, however, the most striking feature of the differential count is the polymorphonuclear increase, up to 85 or 90 per cent. being by no means uncommon.

When circumstances do not permit of the actual finding and isolation of the leptospira in Weil's disease the serological reactions are very important. Antibodies as a rule appear about the sixth day of the disease, and reach their maximum three or four weeks later. One point which must always be taken into consideration is the fact that agglutinins persist in the patient's serum for many years, and an agglutination titre, even up to 1 in 300 several years after the onset of the disease, is not uncommon (Fairley, 1934 ; Brown, 1935). This fact, together with the rise in agglutinin titre which occurs during the first fortnight of the disease, must always be considered in making a diagnosis of Weil's disease.

Case Record

The following account of a case of jaundice in a miner whose serum agglutinated *Leptospira icterohaemorrhagiae* to a dilution of 1 in 100 bears out these points.

The patient, aged 52, who had worked in a seam of a colliery in which cases of Weil's disease had occurred, was admitted to hospital on March 20th, 1936, complaining of jaundice, epistaxis, pruritus, dark-coloured urine, and putty-like stools.

The serum gave the following agglutination reactions on three occasions against a London human strain of *Leptospira icterohaemorrhagiae*:

1936	1/10	1/30	1/100	1/300	1/1,000
March 31st	0	+	+	0	0
April 4th	+	+	+	Trace	0
April 14th	+	+	+	0	0

It will thus be seen that there was no appreciable rise in the titre of this serum on successive examinations.

The second point to be noticed is that the titre of the serum is much lower than would be expected to be the case considering that jaundice was well marked eleven days before the first agglutination test.

The following shows a rise in titre in a typical case of Weil's disease:

1935	1/10	1/30	1/100	1/300	1/1,000	1/3,000	1/10,000	1/30,000
Sept. 3rd	+	+	+	0	0	0	0	0
Sept. 4th	+	+	+	Trace	0	0	0	0
Sept. 7th	+	+	+	+	+	0	0	0
Sept. 8th	+	+	+	+	+	0	0	0
Sept. 9th	+	+	+	+	+	+	Trace	0
Sept. 11th	+	+	+	+	+	+	+	0

The second point which we consider important in the diagnosis of the case under consideration is the differential blood count, which was as follows:

	April 1st, 1936	April 14th, 1936
Polymorphonuclears	... 48.5 per cent.	..... 48 per cent.
Lymphocytes ...	... 39.0 ,,	..... 38 ,,
Large mononuclears	... 9.0 ,,	..... 11 ,,
Eosinophils	... 3.5 ,,	..... 3 ,,

This is typical of the count met with in cases of catarrhal jaundice, and in that it is present in a patient in whom there is no rise in the agglutinin titre against *Leptospira icterohaemorrhagiae* as the disease progresses it leaves very little doubt that the disease in question is catarrhal jaundice, and that the low titre of agglutination is due to a previous infection with the leptospira.

We wish to thank Dr. J. C. Spence for kindly allowing us to publish this case.

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THE OTOLITHIC CATASTROPHE

A NEW SYNDROME

BY

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Ever since Ménière gave his famous account of vertigo and allied phenomena associated with disease of the ear the title of Ménière's syndrome has been used vaguely to include a very heterogeneous collection of conditions. With better understanding of labyrinthine function, however, some order is emerging from this chaos. For instance, a comparatively clear-cut entity is now well recognized in aural vertigo, a condition characterized by:

1. Progressive deafness, usually bilateral but almost invariably much more pronounced in one ear.
2. Attacks of vertigo, with allied symptoms of pallor, nausea, sweating, etc.

It is clear that the syndrome is referable to some degeneration, whether toxic, inflammatory, or abiotrophic, of the inner ear. Whether the lesion is primarily in the neuro-epithelium of the inner ear or, as Dandy has not very convincingly maintained, in the eighth nerve itself is not yet proven. That question, while important from the point of view of surgical intervention, will not influence the present argument.

Anatomy of the Inner Ear

The inner ear can be divided both anatomically and physiologically into:

1. The cochlea.
2. The semicircular canals.
3. The vestibule, further subdivided into: (*a*) utricle, (*b*) saccule.

It will be noted immediately that although the organ involved in aural vertigo has a triple, if not quadruple, nature yet the symptoms evoked from it are classified under only two headings. The progressive deafness is referred to the cochlea, and the vertigo, etc., to the canals. This discrepancy is due to the fact that until comparatively recently very little was known of the

functions of the third portion, the vestibule. Nevertheless, although still somewhat enshrouded in mystery, the vestibular otoliths have been ascribed the following functions, with a high degree of probability.

THE UTRICLE

This is a tiny sac (Figs. 1A and 1B) lined by squamous epithelium and lying in a hollow in the bony vestibule. At one spot in its floor is the lapillus, a little plateau of neuro-epithelium, *a*, from which runs the utricular nerve to join the main eighth nerve. Resting on it with the intervention of a gelatinous stroma is a mass of tiny crystals of calcium carbonate, the otoconia, *b*.

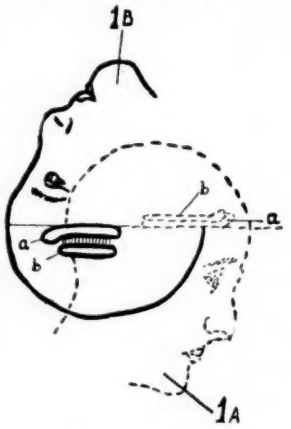

FIG. 1A AND 1B.

FIG. 2.

FIG. 3.

In the upright position (Fig. 1A) *b* is pressing on *a*. In the upside-down position (Fig. 1B) it will drag, and intermediate positions will produce intermediate effects. The right and left lapilli are synergic.

The function of this organ has been the subject of an enormous amount of research by Magnus and de Kleyn, Rademaker, Quix, Maxwell, McNally and Tait, etc. There can be no doubt that one of its functions, if not its main one, is that of influencing muscle tone. Thus experiments on decerebrate animals demonstrate quite emphatically that in its "maximum" position the lapillus augments decerebrate rigidity, and in the opposite or "minimum" position it produces flexion and flaccidity. The exact angle of each position is still in doubt; certainly it varies from one animal to another, but of the existence and importance of this phenomenon there can be no question. The effect on the human body is well shown by Figs. 2 and 3 (after Rigaud).

THE SACCULE

The saccule (Fig. 4) is anatomically very similar to the utricle. The chief difference lies in its position in space.

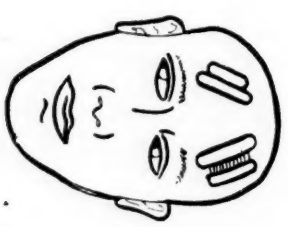

FIG. 4.

FIG. 5.

The sensitive area (sagitta) lies on the side instead of the floor of its retaining sac; furthermore the right and left sagittae are roughly at right angles to each other, so that unlike the lapilli they are opponents and not synergists.

This is not the place to discuss the work which has been done on the function of the saccule. Selective ablation experiments have seemed to indicate that it has nothing like the importance of the utricle in the maintenance of muscle tone and body posture. On the other hand, there is some reason to believe that it records sounds of low frequency by bone conduction (Ashcroft and Hallpike). From the point of view of physics and of comparative anatomy it is very likely that it subserves both functions. For the purpose of this article I shall confine myself to its influence on body posture as described by Quix, Rigaud, and others. Broadly speaking, then, the saccules act unilaterally in opposition to each other. (See Figs. 4 and 5.)

We are now in a position to visualize the missing third element in the syndrome as follows.

The Utricle.—Accesses of rigidity may be produced (Fig. 3), but, far more important, the utricle may produce sudden flexor spasm (Fig. 2). We have only to remember the sudden collapse produced by tapping a standing individual suddenly on the hamstrings to realize the effect of this flexor tone. The patient will double up and collapse backwards like an empty suit of clothes.

The Saccule.—Here similarly collapse is to be expected, but to one or other side rather than backward.

It only remains to describe cases which will illustrate these points.

UTRICULAR AFFECTION

Mr. X. was sent to me with a history of giddiness and a discharging ear of several months' duration. He described typical attacks of giddiness in which "things went round," but in which he was always able to steady himself by clutching something or by getting to a chair to lie down. These I refer to the semicircular canals. In addition, however, he described an entirely different attack, of which the following is typical. One day he was standing at his desk talking to a client when suddenly he slumped to the floor. He had no vertigo, no loss of consciousness, and no malaise. The thing came like a bolt from the blue, but he was able immediately to assure onlookers that he was all right, and almost immediately got up and carried on. That is exactly what one would anticipate from Fig. 2.

SACCULAR AFFECTION

Mr. Y. was sent to me on account of "giddiness." He was a typical case of aural vertigo, giving the usual account of giddy attacks in which, however, he was always able to steady himself and to draw in his van to the edge of the road (he was a motor driver). On one occasion he was standing in his van receiving packages when suddenly he felt "as if the wheel had collapsed under him." He crashed down on his side. Here again the effect was instantaneous, but passed off very rapidly. There was no true disorientation, no loss of consciousness, and no vomiting. This picture bears a close resemblance to Fig. 5.

COMBINED CONDITION

Miss Z., another case of aural vertigo, also suffered with pansinusitis. She describes identical attacks of instantaneous onset and short duration. She dare not go down stairs, and can usually show a "black eye" or some similar result of her latest fall. She describes sagittal as well as coronal collapses, but also speaks of occasional spasms in which her arms jerk up, much as one would expect from Fig. 3.

Conclusion

It would thus seem to be justifiable to distinguish a "canal" syndrome from an "otolith" syndrome, as in the conjoined table.

	Canal	Vestibule
Onset	Ingravescent	Instantaneous
Duration	May be minutes up to days	A minute or less
Nausea, pallor, sweating, etc.	Yes	No
Giddiness...	Yes	No
Deafness	Variable in type; may be little or none	Definite reduction of bone conduction

Apart from the academic interest of this phenomenon I should like to draw attention to the following points.

1. The rare fatal fall which occurs in Ménière's syndrome is almost certainly to be ascribed to the otolithic apoplexy rather than to the canals.

2. It is possible that the aural origin of some cases is not being recognized. In the absence of obvious deafness or giddiness one might easily be tempted to label a pure otolith collapse as hysterical or even petit mal.

So far as I am aware this differentiation of symptoms on an anatomical basis has not been proposed before, although the dramatic collapse has frequently been noted. Mygind and Dederding say: "Les attaques purement apoplectiformes sont rares. Ordinairement il y a des prodromes avertissants. . . . En général, l'attaque essentiellement apoplectiforme est momentanée. . . . Dans une telle attaque, le malade peut tomber par terre comme foudroye."

Clinical Memoranda

Sympathectomy for Dysmenorrhoea

Special interest attaches to the following case of resection of the presacral nerve and the inferior mesenteric ganglion for dysmenorrhoea complicated by severe constipation (achalasia of the pelvi-rectal sphincter).

A patient aged 33, sent by Dr. Kirby of Robertstown, Kildare, was admitted under my care to the Kildare Infirmary in January, 1933, on account of dysmenorrhoea and severe constipation. She could not remember having ever been free from constipation. During the last few years, however, it had been increasing to such an extent that her whole time had been devoted to the requirements of the bowel. For months before admission to the Infirmary an action of the bowel could only be obtained by daily self-administered enemata. To add to her misery a new train of symptoms had developed: pain and discomfort after meals mimicking the "immediate" pain of gastric ulcer rather than the "delayed" or hunger pain of duodenal ulcer; dysmenorrhoea, which was so severe that the patient was obliged to remain in bed until the pain had subsided; and bladder spasm of a most annoying character. Now and then attacks of abdominal colic occurred. The abdomen was at times slightly distended and tender to the touch. There was, however, no localized tenderness.

Before her admission to the Kildare Infirmary the patient's appendix had been removed and her cervix dilated, without any improvement in her menstrual or abdominal symptoms. On admission to the Infirmary the patient was put upon special dietary. Drugs of various sorts were administered, with little or no improvement in her condition. An *x*-ray examination of the gall-bladder and of the entire alimentary tract was then carried out Cholecystography revealed a gall-bladder which appeared to function normally. Further *x*-ray examination revealed some delay in the passage of a bismuth meal from the stomach, the contour of which appeared to be quite normal. The barium meal appeared to reach the head of the caecum in the normal time, and there was no evidence of ptosis of the ascending colon or caecum. There was considerable delay of the barium meal in the descending and pelvic colon. A fractional test meal revealed an increase in the total acidity and free HCl of the stomach. A trace of starch was found two and a half hours after the test meal had been administered. An *x*-ray examination after a barium enema revealed a slightly dilated pelvic colon and a smooth-walled descending colon showing no signs of peristalsis. An interesting point was that several pints of the enema were administered without discomfort. The case, in other words, presented the characteristic features of megacolon as it appears in the adult.

The patient was then brought to the operating theatre and spinal anaesthesia was administered. It had been my intention then to have the patient immediately transferred to the *x*-ray room, in order to take a second photograph, but the enema was evacuated before the patient left the operating table—the first spontaneous evacuation for months. The induction of splanchnic paresis by means of spinal anaesthesia was a clear indication for abdomino-pelvic sympathectomy. The intractable nature of the dysmenorrhoea was an additional reason for this procedure.

Operation.—The presacral nerve was divided over the promontory of the sacrum at the point where it divides into the hypogastric nerves. It was lifted off the fifth and fourth lumbar vertebrae and the bifurcation and the interior aspect of the aorta as high as the origin of the inferior mesenteric artery. The sympathetic fibres converging upon the origin of this vessel from above and from the sides were divided, and the proximal inch of the artery was completely denuded.

The immediate results of the operation were a painless menstruation, a relief of the bladder symptoms, and the cessation of attacks of abdominal colic. The gastric symptoms, however, persisted, and a daily enema was still the only effective method of securing an evacuation of the bowel. Three weeks after the operation the bowels could be moved by strong purgatives. The gastric symptoms were less frequent, and the patient was able to partake of a more generous dietary. At the end of three months she was discharged.

Shortly after her discharge she wrote to say that she occasionally required opening medicine; otherwise she had never felt so well in her life, and her weight had increased by a stone and a half. Quite recently she wrote, in reply to my queries, that she feels no gastric discomfort; that she does not require any purgatives; and that there has been no return of her menstrual or bladder symptoms.

The case described is of interest alike to the gynaecologist, the physician, and the general surgeon. Its special interest lies in the light which it appears to throw upon the relationship of the abdomino-pelvic sympathetic system to the special type of dysmenorrhoea which the case exemplifies. It is impossible within the limits of a short communication to elaborate upon this interesting relationship.

When rectal spasm with consequent constipation accompanies dysmenorrhoea it is due, as a rule, to achalasia of the anal sphincter. It may, however, as in the case described, be due to achalasia of the pelvi-rectal sphincter. These conditions can be distinguished only by *x*-ray examination of the pelvic and descending colon after the administration of a barium enema. The distinction is vital. Since most of the sympathetic fibres of the distal colon are supplied by the inferior mesenteric plexus resection of the presacral nerve alone may not completely restore bowel functions. The inferior mesenteric plexus should be resected as well.

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A Resectoscope Result

A bricklayer, aged 46, was sent to see me at the Nottingham General Hospital with the history that four years ago a vesical calculus had been removed by suprapubic operation. The wound had healed well, but the man had never passed any urine naturally after the operation. He was entirely dependent on a No. 9 silver catheter, which he carried in his pocket wrapped up in a handkerchief along with a bottle containing liquid paraffin for lubricant.

Cystoscopy showed a trabeculated bladder with mild cystitis. The prostate could be seen as a slight elevation surrounding the internal meatus, and it appeared probable that this was the cause of the inability to micturate.

The man was admitted and endoscopic prostatic resection done, using a MacCarthy resectoscope; a catheter was tied in. On the fifth day the catheter was removed, and five hours later the man passed naturally 22 oz. of urine all at once and without effort, but with great delight.

When he was seen three weeks later as an out-patient his stream had remained undammed and his joy undimmed.

Nottingham. J. LLEWELLYN DAVIES, F.R.C.S.

Excitement of Sympathetic Ophthalmia

It is indeed fortunate that even in eye hospitals one rarely sees cases of sympathetic ophthalmia now. Thanks to outside practitioners, cases in which this condition is likely to arise are quickly referred to the ophthalmic surgeon, who in the slightest case of reasonable doubt will remove the eye, and so stave off one of the most tragic eye conditions that we know. Unfortunately the lay public is often ignorant of the danger caused by some small perforating injury of the globe. Thus patients sometimes do not seek advice in time to prevent the exciting eye setting up the mild inflammatory changes in the good eye which we know as sympathetic ophthalmitis.

Since the condition is now so rare, it is considered sufficiently important and sufficiently interesting to report these two cases which came under my care a few weeks ago.

CASE I

A little girl aged 10. This child apparently injured her right eye accidentally by stabbing it with a fork. The parents, who lived in an inaccessible country district, did not think that the injury was serious enough to call their doctor. Five weeks after the injury the child was brought in with the complaint that she had "a sore on the eye." On examination, a wound was found in the ciliary region of the right eye, which was just covered by the upper lid. Through this wound uveal content was protruding. The eye itself was very red and very painful. Vision was reduced to "hand movements." The other eye at this time showed a faint ciliary flush, which was sufficient for it to be recognized as a commencing sympathetic ophthalmitis. The vision in this eye was then 6/6 (part).

The child was admitted to hospital immediately, and the right eye was enucleated at once. Intensive treatment was started for the inflammation of the left eye, which in a few days responded so well that all trace of inflammation had disappeared before a fortnight had passed. She was thus allowed to return home with written instructions about continuation of the treatment. It was now felt that the removal of the exciting eye had caused the sympathetic inflammation of the left eye to disappear. Unfortunately, the child came back to hospital again about ten days later with intense inflammation of the left eye. The vision was reduced to 6/12, and since that time has become steadily worse. Now—some four weeks later—the eye is still very red, and vision is only 6/24. The prognosis, of course, is very bad.

CASE II

A farmer aged 40. This case is even more interesting on account of the great length of time that elapsed between the original injury and the onset of the exciting inflammation. This man was sent to me because of mild inflammation of the right eye. It had commenced suddenly three weeks before, but he had not thought it necessary to see his doctor until the day he came in. He gave a history of a gun-shot wound in or around this eye, which had occurred twenty-three years previously. Since the original injury the eye had been quite quiet.

On examination, there was a traumatic cataract in this eye, and also a slight divergent squint. For this reason the vision was down to "hand movements" only. The eye was red from ciliary injection, but not markedly so. Vision in the left eye was normal, and there was no sign of inflammation. A radiograph of the eye was taken, and revealed a large foreign body within the globe.

Immediate enucleation of the eye was advised, and, after removal, a flattened "shot" was found within the globe attached to the sclera. So far the left eye has remained normal. The danger of sympathetic ophthalmia occurring now, though certainly less, is by no means past altogether. The exciting eye had been inflamed for three weeks before removal, and it would seem fortunate that no sign of sympathetic ophthalmitis was present in the good eye before operation.

Shrewsbury. GEOFFREY MOREY.

Reviews

MEDICAL AND SOCIAL ASPECTS OF ABORTION

In *Abortion, Spontaneous and Induced*,[1] Professor F. J. TAUSSIG of the Washington University of Medicine, St. Louis, has written a comprehensive monograph on the medical and social aspects of the subject. The book is one of a series dealing with human fertility from the medical point of view, sponsored by the National Committee on Maternal Health. In the first section, extending to 360 pages, the author discusses the subject in relation to aetiology and pathology, and to the clinical features of spontaneous, therapeutic, and illegal abortion. In the fullness of its treatment and in the manner in which it has gathered together the world's literature, this section is probably the most complete discussion of this aspect of the subject in existence. Throughout it is profusely and almost lavishly illustrated, and it reflects the wide experience and the ripe judgement of the author.

The remaining section of the book, consisting of about 120 pages, deals with the statistical, the social, and the legal aspects of abortion. Professor Taussig, from the evidence at his disposal, estimates that in the United States the abortion rate is 1 to 2.5 confinements in urban areas, and 1 to 5 in rural areas. This gives a total of 681,600 abortions annually in the United States. From various sources he is led to estimate the abortion death rate as 1.2 per cent., giving an annual total of over 8,000 deaths. The evidence indicates that the majority of abortions are due to illegal interference, and that there has been a rapid increase in such illicit procedures during the past twenty-five years. Professor Taussig discusses the data from other countries, and concludes that illegal abortion constitutes in varying degrees one of the gravest of the maternal problems in all countries whose statistics are available for study. Considerable attention is devoted to a consideration of the legal enactments devised in the United States and in other countries for dealing with the illegal practice. He refers to the unsatisfactory position of the laws in existence in some of the States of the Union in regard to abortion in that "they are often confused in their wording and illogical in the penalties inflicted." In thirty-one States and four Territories the law exempts from prosecution any person who procures abortion for the purpose of saving the mother's life. In some instances the law enforces, in others it advises, consultation with a second doctor before therapeutic abortion is carried out. Four States—Colorado, Columbia, Maryland, and New Mexico—make provision for abortion for the express purpose of safeguarding the *health* of the mother.

Professor Taussig believes that mass opinion in the United States is prepared for considerable change in the law, and that legal recognition should be given "to any abortion produced by any regular practitioner of medicine, after consultation with another such practitioner and done in any licensed hospital of the State, for the purpose of preserving the mother's life or health, or in cases of physical depletion or of moral irresponsibility of the mother. The advice of two regular practitioners of medicine shall serve as evidence of the necessity for producing such an abortion." By "physical depletion of the mother" is meant any condition that produces bodily exhaustion predisposing to disease, such as too frequent child-bearing, under-nourishment, or excessive family responsibilities. Throughout the author insists that only by the energetic efforts of the medical profession can the

[1] *Abortion, Spontaneous and Induced. Medical and Social Aspects.* By Frederick J. Taussig, M.D., F.A.C.S. London: H. Kimpton. 1936. (Pp. 536; 146 figures. 32s. net.)

public be brought to realize the extent to which the unlawful interference with pregnancy by unskilled persons has created in most countries a problem of great importance to the public health. His analysis of the data is valuable, and his recommendations are worthy of being studied by all those who are interested in the subject.

FROM INDIVIDUAL SYMPTOM TO DIAGNOSIS

An author who proposes to discuss every symptom which a patient may offer as the burden of his complaint, and, in addition, to consider all possible causes of each symptom, is obviously undertaking an extremely laborious task. In his *Examination of the Patient and Symptomatic Diagnosis*[2] Dr. JOHN MURRAY essays this task, and of the sustained zeal and industry which he has brought to its discharge there can be no question. The method of the book puts the individual symptom as the starting-point of each diagnostic inquiry, and it may be argued, not altogether unreasonably, that this is the natural method of clinical procedure, for undoubtedly, at least from the patient's point of view, the symptom is the primary fact, while it remains for the physician to review the possible interpretations and to judge the one actually in operation.

To meet this position it is of course necessary to make an inclusive list or index of symptoms—the thing has been done on more than one occasion—and to attach to each the name of every one of the alleged or possible causes. Dr. Murray, however, is not content with mere lists of symptoms or with mere lists of causes. On the contrary, he attempts to indicate how in the individual instance the particular cause of the patient's symptom may be identified—that is, may be isolated from all other possible causes. The procedure is from individual symptom to diagnosis, as the title of the book suggests. In actual practice the matter is not quite so simple. Not every patient presents a single or a single predominating symptom, nor does the quality which he attaches to any symptom help much to its true clinical interpretation. Take, for example, the section of the book marked "Headache." For the patient with this symptom there are provided thirty-two questions, and each of these is supplied with an answer to which is attached some degree of diagnostic value. Question 9 reads "Hot burning sore headache?" with the answer "Frequently due to anaemia or rheumatism"; Question 10, "Sharp and boring pains in the head?" with a reply "Hysteria or epilepsy."

Such a quotation illustrates some of the disadvantages of a method which endeavours to approach clinical medicine mainly or purely from the symptomatic aspect. In the very natural desire to be complete, everything, however rare and exceptional, must be included, distinctions are made more sharply dogmatic than nature allows, the specific value of the quality of individual symptoms is apt to be exaggerated, and an indication of the relative frequency or importance of the various possible responsible causes is difficult to maintain. Sometimes the pursuit of all possible detail produces unimpressive and even trivial results, as when on page 456 Question 2—namely, "Is there a flush on the face?"—has the answer: "A flushed face is common in tuberculosis," while Question 3, "Is there pallor of the face?" is answered: "Pallor of face is an important symptom of tuberculosis"—a lengthy and involved fashion of stating a simple proposition without at the same time any advance towards a diagnostic goal. Dr. Murray's method is much more effective when he applies it, not to the subjective symptoms of disease, but to objective phenomena, as, for example, the tendon jerks, the varieties of disturbed gait, and forms of skin eruption. Here the starting-point is a definite one, the possible interpretations are limited in number, and by the method of graduated exclusion a fairly definite result can be reached. But when "cough" is the problem, Dr. Murray finds thirty-one varieties, each with its special shade of diagnostic significance and yet likely, we fancy, often to prove not helpful on trial.

Altogether the scheme on which the book is constructed has a distinct but limited value; the volume is for reference rather than for systematic reading, and its purpose is more to inform than to educate. Its usefulness arrives when the practitioner is faced with a symptom for which the history and examination afford no confident interpretation. Here, to meet this position, is a book which catalogues all the aetiological possibilities, including those of unusual and exceptional occurrence. It is, in short, a comprehensive collection of clinical facts stated as a record, and of the causes and consequences which experience associates with these facts. In this direction and within this range Dr. Murray's industry will doubtless prove of service to his colleagues. His book is generously illustrated and effectively presented.

[2] *Examination of the Patient and Symptomatic Diagnosis.* By John Watts Murray, M.D. Second edition. London: H. Kimpton. 1936. (Pp. 1,219; 274 figures. 42s. net.)

A MEDICAL SEPTEMVIRATE

Heroic figures in the world of medicine, as in the larger page of history, once they have engaged our interest, possess the power to rule our minds with an exclusive sway: others, comparatively undistinguished, make a less arresting appeal. We find it easier to acclaim the brilliant than to assess the merely competent, which in the case of medical men is often an injustice. We may perhaps assure ourselves that our high attitude in such matters is but the outward expression of our lofty ideals. More likely it is the result of our own mental indolence, which causes us to look askance at the effort required to explore the obscurer grades of titles to fame. In a recent work which presents notices of seven men who, though not masters of medicine, had distinctive merits of their own, Professor Major GREENWOOD has saved us the labour of investigating their credentials by furnishing us with relevant data as to their achievements and status.[3]

Of the seven biographical studies the first, which gives its title to the book, is that on Galen of Pergamos. Galen is treated with more appreciation than he often receives nowadays from lesser men. It is noted that though the world has lost faith in his balance of the humours his psychological classification still holds the field. It is suggested that, though he was not great in the way that Plato and Aristotle were great, we should not be too prone to sneer at our forefathers' submission to his authority.

John Freind, born 1675, who comes second in order, had, like Galen, something to say of balance or equilibrium in the body. In general, however, he had little use for speculative systems, and he held the creditable view that the "epidemic constitution" of his contemporary Sydenham—revived in our own time to the mental confusion of many—was mere nonsense. As the author says, "if not a typical Englishman he was the kind of man most Englishmen would like to be." P. M. Latham, born 1781, was, like Freind, an Oxonian, and, like both Galen and Freind, concerned with questions of balance, in this case the balance of the medical curriculum of his day between theory and practice. He said: "Have a very great care of your medical student, and how you guide him at starting," a dictum which, taken out of its setting, holds good for all time.

[3] *The Medical Dictator, and other Biographical Studies.* By Major Greenwood, F.R.S., D.Sc., F.R.C.P. London: Williams and Norgate Ltd. 1936. (Pp. 213; illustrated. 7s. 6d. net.)

The study of William Farr recounts how he was appointed compiler of abstracts in the General Register Office, how he introduced quotations from Latin poetry together with other warm expressions into the frigid reports of the Registrar-General, and, though never Registrar-General himself, was enabled by a caprice of fortune to found the vital-statistical system of England, which is the best in the world. On the numerical method of Pierre Louis, born 1787, who forms the subject of the fifth study, one of the author's comments is that though clinical writers to-day quote figures freely it may fairly be doubted whether a single teaching hospital in England attempts a systematic evaluation of its records.

The sixth study, on William Osler, is not an encomium. There is in it a good deal more of criticism than of eulogy. We should not in any case look for eulogy unless deserved, but the author himself appears to feel that he may have inclined too much to the side of fault-finding. The faults, however, are never grave, rather the foibles of a friend at which a friend may smile. They serve but to throw into relief the good qualities of the man himself, who is summed up at the close of the piece as a kind-hearted honourable gentleman. The final study, of A. W. Bacot, enshrines the memory of the author's friend. It stands above criticism.

The foregoing summaries may serve to indicate the wide and varied interest of these essays. Medical philosophy, medical teaching, vital statistics, clinical medicine, epidemiology, and entomology all figure in turn, but throughout there runs, like a golden thread, a fine sense of the meaning of men's lives, conveying, as the author says, a favourable impression of human nature in general, and, as we on our part venture to say, an equally favourable impression of the author himself.

UNORTHODOX PAEDIATRICS

In *Disease in Childhood : A Clinical Study*[4] Dr. ROBERT S. FREW has analysed, discussed, and theorized about a large series of patients who have passed under his care and about his post-mortem room experience. By seeing out-patients in the order of their ages the author reached the conclusion " that certain diseases were only seen at certain ages, or, if not so circumscribed, that the symptoms of a disease frequently varied with the age of the child." After this profound truth enunciated in the preface the author proceeds to elaborate in the early pages his theory of " hyperphlebaemia," a term which means " an excessive quantity of blood forced into the intra-corporeal venous system during birth, before it is ready to receive it." Throughout the course of the book, which deals only with the first year of life and is apparently the first volume of a series, " hyperphlebaemia " continues to make its appearance, being invoked to explain rickets (as one factor), asthma, and cretinism, to name only a few of the disorders ascribed to this cause. Treatment of this widespread condition is obviously of importance, and under general remedial measures is as follows: "If, when the baby is born, the cord has ceased to pulsate, or if he is suffering from ' white asphyxia,' the cord should be severed without ligaturing and bleeding promoted by every available means." Another measure suggested as theoretically desirable is to leave the placenta and baby attached (in normal babies) until a " natural " separation occurs. Leaving these aetiological and therapeutic novelties aside one regrets that so much useful clinical observation should be associated with so much unwarranted speculation. The methods of infant feeding described are not easy to follow, and the table on page 161 contains a vital misprint, making nonsense of its contents. The author's sincerity and industry cannot be doubted; he has had extensive experience, and as a senior member of his branch of the profession he is entitled to express his own views, even though they are in conflict with orthodox opinions. The extracts given here are typical and essential parts of his argument.

[4] *Disease in Childhood : A Clinical Study. The First Year.* By Robert S. Frew, M.D., F.R.C.P. London: Macmillan and Co. Ltd. 1936 (Pp. 669 ; 89 figures. 30s. net.)

SHORT CUTS TO ELECTROTHERAPY

As a short cut to the difficult science and art of electrotherapy Dr. HEINRICH WOLF has prepared a guide[5] for the general practitioner and technician which presents in an extraordinarily concise form the indications for and technique of application of all the treatments prescribed. Diagrams convey at a glance what many lines of text would be needed to describe, on an average half a page sufficing for a diagram and a description of each treatment. True, pitfalls are mentioned, and lists of " don'ts " in short-wave therapy, diathermy, and ionization are given, but the general impression that the book gives is that electrical treatments, even in gynaecology and oto-laryngology, are as simple as cookery appears in the advertisements of " thermally controlled " ovens.

Short-Wave Therapy and General Electrotherapy has been written, as the preface states, for the general practitioner who has not time for deeper study of the subject, and yet is anxious to use physical methods of treatment. If his treatments are successful the author thinks the practitioner may be encouraged to investigate the subject more thoroughly, but such a policy is to be deplored. In short-wave therapy, in particular, good results depend on an understanding of the foundations of the subject, and where even the skilled specialist advances cautiously the inexperienced man cannot expect success by superficial methods. Should he embark, fortified by this handbook, on, for example, cervical diathermy or subcoagulation of hypertrophied turbinals, he will rapidly discover that in unskilled hands successful treatment is not even as simple nor even as safe as it looks; and should he attempt to induce hyperpyrexia by diathermy he will soon realize that a clinic or institution is, after all, the best place for the proper control of such a process.

While admiring the thoroughness and competence with which Dr. Wolf has reduced electrotherapy to pocket dimensions, and the consistent clarity of his presentation of it, we hope that practitioners who are stimulated by his book to practise short-wave therapy will go more deeply into its study before treating their patients, and not after, as Dr. Wolf suggests.

[5] *Short-Wave Therapy and General Electro-Therapy Illustrated.* By Heinrich F. Wolf, M.D. New York: Modern Medical Press. 1935. (Pp. 104 ; 80 figures. 2.50 dollars.)

Notes on Books

In the work entitled *The Devil a Monk Would Be*,[6] Mr. T. CLIFTON LONGWORTH illustrates the part that sex ideas and sex symbolism have played in the origin and development of cults. In the first two chapters he shows that erotic symbolism was a constant feature in all primitive religions, in some of which sex emblems were the only objects of adoration. The subsequent chapter is devoted to erotic symbolism in English churches as shown by carvings of pre-Reformation date in Winchester Cathedral, Westminster Abbey, St. George's Chapel at Windsor, and elsewhere. The carvings illustrate the development from the thirteenth to the sixteenth century within the church of vice and luxury which are attributed by the author to the celibacy of the clergy, a subject which occupies the bulk of the work.

[6] *The Devil a Monk Would Be : A Survey of Sex and Celibacy in Religion.* By T. Clifton Longworth. London: Herbert Joseph, Ltd. 1936. (Pp. 143 ; illustrated. £1 1s. net.)

Professor NOEL FIESSINGER'S little work on the treatment of infective jaundice, which forms part of the series entitled "Les Thérapeutiques Nouvelles,"[7] gives a concise account of what should be done and what should be avoided in the treatment of the various forms of infective jaundice, as well as a brief account of the symptomatology and pathology of these conditions.

S. Karger, Berlin, publishes four lectures[8] on congenital syphilis given by Professor E. HOFFMANN before the Santander (Spain) International University in August, 1935. These lectures give a concise review of the latest teachings on a disease whose true nature has so long remained obscure. There is no doubt now as to the fact that syphilis is not a hereditary disease. It is not that the child is infected because the spermatozoon which fertilized the ovum harboured spirochaetes. It is the mother who acquired the infection either from the father or somebody else, and this either when she conceived the child or on another occasion. The transmission to the child by way of migration of the spirochaete through the placenta and the umbilical cord does not take place earlier than the fifth month of pregnancy. If therefore the disease is diagnosed early enough in the mother, there is every chance to produce a healthy child. Two ante-natal courses of treatment are regarded as sufficient. Professor Hoffmann's paper is illustrated by some good photomicrographs, and gives most of the recent bibliography in footnotes.

Dr. W. E. BRAY, the author of *Synopsis of Clinical Laboratory Methods*,[9] is professor of clinical pathology in the University of Virginia and director of the clinical laboratories. He has brought together in this book a description of the most frequently employed laboratory tests used for diagnosis or the control of treatment. The tests have been judiciously selected. In reading through the book we have not come across anything which would be considered superfluous, nor noticed any important omissions. For many of the tests used in clinical pathology there are alternative methods of technical procedure, and these are often mentioned by Dr. Bray, though not to the extent of depriving the book of its personal character. The book will be particularly useful as a guide to side-room work or to those beginning the practice of clinical pathology.

[7] *Traitement des Ictères Infectieux*. By Noel Fiessinger. Paris: J. B. Baillière et Fils. 1936. (Pp. 52. 10 fr.)

[8] *Die Angeborene Syphilis im Lichte 30 Jähriger Spirochaten- und 25 Jähriger Salvarsanforschung*. By Professor Dr. Erich Hoffmann. Berlin: S. Karger. 1936. (Pp. 46; 6 figures. RM. 4.60.)

[9] *Synopsis of Clinical Laboratory Methods*. By W. E. Bray, B.A., M.D. London: H. Kimpton. 1936. (Pp. 324; 32 figures, 11 coloured plates. 16s. net.)

Preparations and Appliances

THE HENNIG URETERIC CATHETER INTRODUCER

Mr. J. COSBIE ROSS, Ch.M., F.R.C.S., honorary assistant surgeon, Liverpool Royal Infirmary, writes:

It is sometimes necessary to leave the ureteric catheter in the ureter for a varying period of time after insertion. It may be desirable to do this for the following reasons:

1. Uncontaminated urine from one kidney can be examined microscopically for organisms, especially for *Bacillus tuberculosis*. The excretory value of the kidney in question may be ascertained by estimating the excretion of urea. Little emphasis can be laid on the presence of small quantities of blood in the urine collected by the ureteric catheter.

2. A catheter left in the ureter for twenty-four to seventy-two hours frequently facilitates the passage of a ureteric calculus. Bumpus,[1] in reviewing a series of 1,001 cases, stated that in 146 instances the stone was passed in this way.

3. Some authorities advise the use of a large-sized indwelling ureteric catheter in the treatment of renal fistula (Albarran).

4. It is sometimes a convenience when carrying out a pyelogram to withdraw the cystoscope after the insertion of the ureteric catheter, before dispatching the patient to the *x*-ray department.

After the ureteric catheter has been successfully inserted difficulty is usually experienced in removing the cystoscope from the urethra without partially withdrawing the ureteric catheter. After the cystoscope has been removed it is usually found impossible to push the ureteric catheter back up to the pelvis of the kidney, as it tends to flex in the vesical cavity. If the patient is thereupon *x*-rayed it is customary to find that the catheter extends little more than half-way up the ureter.

This technical difficulty has been neatly solved by the use of the Hennig ureteric catheter pusher. This little instrument consists of a handle, C, a flexible shaft, B, extending from which is a short length of wire, A, for introduction into the

catheter. The flexible shaft is approximately 17 centimetres in length, and is shorter than the ureteric channel in the average cystoscope. Thus the danger of thrusting the ureteric catheter completely into the vesical cavity is obviated. The method is as follows.

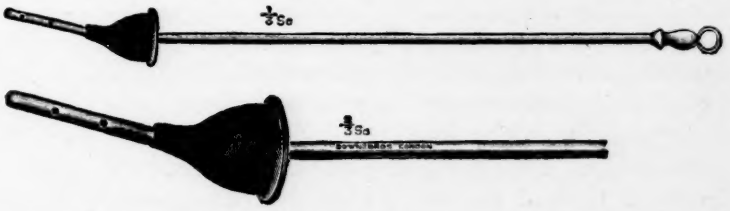
A catheter, after introduction into the ureter, is pushed home until the extremity is almost level with the outer opening of the ureteric channel in the cystoscope. The wire is inserted into the catheter and the shoulder, D, engages in the extremity of the catheter. Finally the cystoscope is slowly withdrawn, the flexible shaft being pushed into the ureteric channel at a rate similar to that of the withdrawal.

There are two further technical points worthy of mention. The first is that funnel-ended ureteric catheters cannot be used in this way until the funnel-shaped extremities have been removed. The second point is that the Hennig ureteric pusher is provided in three sizes to fit fine, medium, and large bore ureteric catheters, 4, 5 to 7, and 8 to 10 Charrière.

The instrument was supplied to me by Messrs. Alexander and Fowler of Liverpool. The figure is one-third natural size.

INTRAUTERINE CATHETER FOR TUBAL INFLATION

Major S. N. HAYES, F.R.C.S., F.C.O.G., I.M.S., professor of obstetrics and gynaecology, King Edward Medical College, Lahore, writes: Messrs. Down Bros. have made for me a simple modification of the Provis intrauterine catheter, with which one can easily, and with no or easily bearable pain, carry out tubal inflation without an anaesthetic and without the aid of an assistant.



The essential feature is a tapered soft rubber cone—the base of which rests against a flat metal stop. Owing to the large amount of soft rubber in the cone very slight upward pressure is sufficient to produce an air-tight joint in either multiparae or primiparae. It is not necessary or advisable to dilate the cervix before introducing the catheter. One vulsellum is sufficient for counter-pressure.

JELLY FOR BURNS

"Burnojel" (Messrs. A. de St. Dalmas and Co., Junior Street, Leicester) is a jelly designed for the treatment of burns. It contains copper guaiacol sulphonate, which is a powerful coagulant and astringent, together with the antiseptic acriflavine and the local anaesthetic benzamine borate. The makers claim that it constitutes a very effective treatment for all burns and scalds.

[1] Bumpus: *Minor Surgery of the Urinary Tract*. Saunders, p. 97.

British Medical Journal

SATURDAY, JULY 25th, 1936

THE PRESIDENTIAL ADDRESS

The Presidential Addresses delivered at the Annual Meetings of the British Medical Association have almost all been on a very high level of thought and of expression. Prominent among them in both respects will stand that given at Oxford this week by Sir Farquhar Buzzard and printed in our opening pages to-day. It is not only timely and eloquent, but is practical and suggestive to an unusual degree, and it may be found to have a real influence upon the development and organization of medicine in this country. Some of the ideas set forth in it are new, while others, though less novel, have not previously been made quite so clear or emphatic as the President now makes them. Still others, which have emerged as the result of the prolonged and careful consideration given by the Association and other professional bodies during recent years to questions of medical practice, education, and organization, receive powerful and welcome support. The Address, as is usual, was delivered to an audience consisting of members of the medical profession in all its branches and members of the laity variously interested in matters of public health and scientific advancement, and, now that it is available in print, it deserves the close consideration of a public equally wide in character.

The reinforcement which the President brings to opinions already formulated and advocated by the profession is well illustrated by his remarks on the staffing of hospitals. If the efficiency of those institutions and of the medical profession as a whole is to be maintained or improved, and if collective security in health matters is to be attained, general practitioners should be given a much larger opportunity of participation in, and association with, hospital work ; further, the medical and surgical staffs of hospitals should be increased in numbers, they should be engaged upon their present part-time basis, and should be paid in some form or other for their part-time services. Sir Farquhar Buzzard sets out a number of cogent considerations in support of this position. The standard of efficiency of hospitals, though high, is lower than it might be, because the members of the staffs often have more work than can satisfactorily be done in the time at their disposal, and insufficient leisure for thought and research. This would be remedied by an increase in numbers, and by making use of general practitioners for such duties and responsibilities as they may properly undertake. These are by no means negligible. The remedy should not be by means of whole-time appointments, for " the long-established system under which the voluntary hospitals, with or without medical schools, have been staffed by doctors who earn their living in consulting practice has been educationally good for the doctor." It has tended to keep up the standard of his work and has enabled him to place the results of his experience directly at the service of the public outside the hospital. Similarly " the general practitioner would undoubtedly benefit if he could devote even two or three hours a week to responsible hospital work, thus keeping in touch with his colleagues in the service and abreast with contemporary increments of knowledge." This benefit, again, would immediately accrue to patients of every class in his daily practice.

A very important point expounded by the President is the time factor in relation to modern medicine. " The time factor," he says, " is the most important ingredient of efficient medical practice, and every addition to the store of medical knowledge enhances its value." As Mr. E. Rock Carling said, very appositely, in his Ramsay Memorial Lecture reported in last week's *Journal*, " the more recondite become the tests and investigations elaborated by those who specialize, the more difficult becomes the task of integration." This is directly relevant to the work both of the consultant and of the general practitioner, and to the quality of that work and to the basis upon which the remuneration for that work should be assessed. It may even be of more importance in the case of the general practitioner than in that of the consultant ; for the recognition of fully developed disease may be more quickly arrived at than the more fruitful detection of departures from normal health. Further, the significance of this time factor is enhanced by the increased importance that now attaches to the investigation of psychological or psychoneurotic disorders or conditions. " Any medical service, therefore, which aims at the prevention and early detection of disease, to say nothing of the preservation of health, must provide the doctor with ample time to carry out his work," and " the better educated the doctor the more time will he require."

The two most striking suggestions which the President makes, however, are in relation to the future sphere of work of general medical practitioners, and the organization and development of medical research. The part the general practitioner can play is fully recognized. In spite of the " encroachments " on his sphere of work by the various clinical services controlled by local or sanitary authorities, Sir Farquhar Buzzard says, " I fail to see why general practice should not assume a more important role in the future of medicine than it has played in the past, and at the same time re-establish some of the family doctor relationships, recently imperilled, on secure and useful foundations." To this end he conceives that the public must come to look upon the practitioner as the " protagonist of health " as well as the " alleviator of suffering," and that his sphere must be predominantly the saving of health and prevention of illness, the discovery of imperfections, the detection of irregularities and abnormalities, and the treatment of illness in its less pronounced but, to the public, more important forms. The care of patients who are seriously ill, the immediate saving of indi-

vidual life, may, the President thinks, become more and more the job of institutional team work. Nevertheless, indeed all the more, must the general practitioner be given his appropriate place in this team ; and if his urgent task in the home is to be efficiently performed, it is essential that he should " help to staff those medical services, preventive and curative, which have been diverted to the control of public health authorities." The President notes that the chief recommendations lately made with regard to the medical curriculum may be expected to contribute materially towards the fitness of future practitioners for what will be their paramount responsibility for the welfare of the community. Incidentally he adds one more metaphor to those which have been used to indicate the position of general practitioners as a class. They are the " fingers " of the profession, its most sensitive parts, its most highly trained instruments of detection.

As Regius Professor of Medicine in the University of Oxford, Sir Farquhar Buzzard envisages the development of the faculty of medicine there as predominantly devoted to research. There should be " at least one school in the country for training men and women the majority of whom would devote their lives to medical research, would not earn their living in practice, and would aspire to the position of the director of the research department in a large centre." The conditions in Oxford lend themselves almost ideally to such a development. There the scientific aspects of medicine should occupy a prominent position, and a limited number of students with the inclination and capacity for a more academic career might have their opportunity of graduating and of pursuing their post-graduate training in due sequence. Sir Farquhar Buzzard thinks this, perhaps, " an ambitious dream," but it is certainly one well worth realization.

A presidential year thus brilliantly begun at Oxford will be looked forward to with lively hope by the whole Association. We can scarcely imagine that the volume or importance of the work undertaken will be greater than that of the last few years, but the urgent task of implementing the policies formulated and the decisions reached cannot fail to be helped forward by the interest and influence of the President.

AN AUSTRALIAN VIEW OF THE CANCER CAMPAIGN

At the behest of the Australian Government Dr. L. M. McKillop, chairman of the Treatment Committee of the Queensland Cancer Trust, has recently visited the principal European centres of cancer research and treatment, and his report to the Prime Minister of Australia on the results of this tour expresses the conclusions which he has reached in consequence of it.[1] These must be of interest, because few men have the opportunity of surveying the whole field so thoroughly, and fewer still are under an obligation to set down their conclusions in the form of a reasoned official report. Dr. McKillop begins by considering the nature of cancer and its aetiology, and while recognizing the undoubted part played by specific irritants, he seeks to go further than this, and to evolve a hypothesis which will explain the genesis of malignant disease generally. He discusses a number of such hypotheses in turn, and displays a marked bias in favour of the idea of gene-mutation, partly because this is best reconciled with the existence of a hereditary factor, upon which he lays considerable stress, and partly because all other factors known to stimulate malignant growth, chemical or otherwise, may be supposed to act by first producing this type of change in the affected cells. He has been much impressed by the chemical relationships shown to exist between carcinogenic hydrocarbons and biological substances such as oestrin, and describes at some length the effects which have been shown to follow the experimental administration of oestrin. He preserves an open mind on the future possibility of treating the disease by means of anti-cancer serum, and is sceptical of the value of most diagnostic tests, condemning the Bendien test as " quite unreliable."

Much of Dr. McKillop's report is devoted to methods of treatment, and this includes detailed consideration of the methods suitable for cancer in different sites and at different stages, together with descriptions of various forms of *x*-ray and radium apparatus, among which he was evidently most impressed by the Chaoul tube. He appears not to be convinced that very high voltage machines or large amounts of radium possess advantages over other methods of irradiation which will justify the expense they entail. Great emphasis is laid on the fact that efficient treatment is the province only of the ultra-specialist, and this leads to an important recommendation—namely, that in every capital city in Australia a State-aided institution should be brought into being where expert treatment is available alike for the poor and the rich. This is one practical outcome of the conclusion that cancer should be taken up by the State authorities as a national problem just as maternal welfare has been, a course which Dr. McKillop evidently considers should also be taken in this country. He believes also in propaganda to encourage early diagnosis, and in periodical medical examinations, two matters of policy upon which there is by no means general agreement ; not everyone will admit that widespread cancerphobia is a trifling price to pay for earlier diagnosis, and the practicability of periodical examination at short enough intervals to serve its purpose is open to question.

The cancer problem in Australia is much the same as it is here, perhaps the only difference being the much greater frequency in Australia of epithelioma of the skin ; and this comprehensive stocktaking of the position may therefore reasonably be read as applying to ourselves. Taking the widest possible view,

[1] Commonwealth of Australia. Report on Cancer Control. By L. M. McKillop, M.B., Ch.M., F.R.C.S.Ed., F.R.A.C.S., F.A.C.S. By Authority: L. F. Johnson, Commonwealth Government Printer, Canberra.

it is unlikely, at least for some time to come, that any method of absolutely preventing cancer will be discovered, or any treatment that is consistently curative and applicable by the average practitioner. Progress in treatment has consisted almost entirely in improving surgical and radiological technique. It is therefore necessary, as Dr. McKillop says, that we should address ourselves to the problem of making these advanced facilities more generally available.

EXPERIMENTAL WHOOPING-COUGH

Ever since the discovery in 1906 of the relation of the Bordet-Gengou bacillus to whooping-cough bacteriological opinion has been divided on the question of its aetiological significance. Although Koch's postulates have in the main been fulfilled many workers have doubted the specificity of the bacillus or believed that the presence of an accessory factor or agent is necessary before invasion by it can lead to the development of whooping-cough in the human. The task of proving specificity has been approached by diverse routes. The technical difficulties of isolation and identification of the organism are formidable but have been largely overcome ; the conditions governing success in preparing an effective prophylactic vaccine have been determined with a considerable degree of accuracy ; and, recently, animal experimentation has been employed with promising results by a small group of American workers. In the latest contribution to the subject A. R. Rich and his co-workers[1] examine first the bearing of certain well-established findings on the question of the pathogenesis of whooping-cough. The frequency with which the Bordet-Gengou bacillus may readily be isolated by means of the cough-plate method in the early stages of whooping-cough and its gradual disappearance *pari passu* with decline in infectivity in the later stages of the disease, the appearance of complement-fixing bodies for the organism during convalescence, and the absence of the organism in catarrhal infections, which in other respects resemble the early stages of whooping-cough, lend weighty support to the theory of specificity. But the discovery of intranuclear inclusion bodies in the pulmonary alveolar epithelium in whooping-cough has reopened the question whether a filter-passing virus is the causative agent or, at least, a necessary concomitant. This view receives further support from the observation that whooping-cough produces an interstitial mononuclear cell infiltration of the bronchial wall similar to that found in measles and influenza, both commonly held to be virus diseases. High infectivity and durable immunity are characteristics shared in common by whooping-cough and measles. Rich and his colleagues have carried out inoculation experiments on apes with (*a*) unfiltered nasopharyngeal washings, (*b*) pure cultures of the Bordet-Gengou organism, and (*c*) filtrates of nasopharyngeal exudate or blood. They chose chimpanzees as the most suitable animals for the purpose. Oral administration by means of a pipette of unfiltered nasopharyngeal and tracheal washings taken from cases of early pertussis was followed in both animals by a condition resembling the disease in humans—characterized by coryza, subsequent paroxysmal cough (in one animal), but no whoop—lymphocytosis, and the appearance of complement-fixing bodies for the Bordet-Gengou bacillus. The organism was recovered from the animals on cough plates at the height of the cough. A similar condition was produced in three out of nine animals when pure cultures of the bacillus were substituted for unfiltered washings, the inoculum being enormous doses of virulent organisms on third subculture, when they were presumed to be free from the hypothetical virus. A definite lymphocytosis was noted in all three, but complement-fixing bodies could only be demonstrated in one animal after the first inoculation. Filtrates of nasopharyngeal washings taken from these three apes were sprayed into the throat of three normal apes with completely negative results. Two of the apes which developed whooping-cough after administration of pure cultures of *H. pertussis* had been inoculated earlier (one and a half months and two and a half months respectively) with sterile filtrates and blood from acute cases either orally or subcutaneously. Another ape had both inoculums by both routes, and a fourth received blood alone. All four animals developed fever and acute upper respiratory catarrh resembling the catarrhal stage of whooping-cough, but there was little or no cough. Neither lymphocytosis nor complement-fixation was found to follow these inoculations. This catarrh-exciting agent was successfully transferred from one of these apes to a normal ape. Although it is clear that this catarrhal reaction confers little or no immunity against whooping-cough, the possible pathogenic significance of a filterable virus in this connexion cannot be lightly dismissed. The analogy furnished by the relation of a specific filterable virus to *B. bronchosepticum* in canine distemper and to *B. suipestifer* in hog cholera suggests that a filterable virus (which may conceivably be the virus of the common cold) may be an excitant of *H. pertussis* or may so lower host resistance as to facilitate invasion by the bacillus. It may well be that absence of such a virus-bacterial combination in the preparation of vaccines has been responsible for the negative or equivocal results so often encountered in efforts at prophylaxis against whooping-cough in human beings. The present experiments cannot be considered as having thrown any fresh light on this particular problem, but they nevertheless mark a distinct advance in our knowledge of the pathogenesis of whooping-cough, and call for more extensive investigation on similar lines.

[1] Rich, A. R., Long, P. H., Brown, J. H., Bliss, E. A., and Holt, L. E.: *Bull. Johns Hopkins Hosp.*, 1936, lviii, 286.

"THE BOOK OF OXFORD"

Every member attending the Annual Meeting this week has received a copy of *The Book of Oxford*, a volume of 250 well-printed pages of text, with twenty-eight plates, and a decorative map drawn by Cecily Peele to illustrate Oxford's medical and scientific history. The introduction recalls the four earlier visits of the British Medical Association to that beautiful and deeply interesting city. Mr. E. A. Greening Lamborn follows with a general note on the history of Oxford and its buildings, which shows how brevity can be achieved without dryness by a master of his subject. The main feature of the book, comprising 110 pages, is a group of short chapters by Dr. R. T. Gunther on Oxford

colleges and their men of science through the centuries, extracted from a fuller account prepared by that well-known authority for a recent series of lectures. These twenty chapters, headed with the names of the colleges, pass in review the alumni of each foundation who have contributed in greater or less degree to medicine and the natural sciences during the past 600 years. First and foremost comes John of Gaddesden, who graduated D.M. about 1309 from Merton, which in the fifteenth century became the leading medical college and can boast that William Harvey of Gonville and Caius was its Warden in 1645–6. And so, college by college, Dr. Gunther takes us over the names, great and small. The more illustrious include Thomas Linacre, who obtained the Royal Charter constituting the College of Physicians of London in 1518 and "founded the great literary tradition that has always remained one of the distinctions of the medical men of Britain"; John Evelyn the diarist, "patron of all the arts and sciences of his day"; John Radcliffe, "an ideal son of Oxford" whose benefactions preserve his name and fame; Edmund Halley, the astronomer, who saw Newton's *Principia* through the press and paid for its publication; the inventive Sir William Petty, anatomist and physician; Thomas Willis, Richard Lower, John Locke, Thomas Sydenham, Robert Hooke, and Sir Christopher Wren; Sir Henry Acland, who laid the foundation of the Oxford Medical School three generations ago; and Sir William Osler, "the greatest physician in Oxford in our time." The next section describes Oxford medical institutions and the public health services of to-day, and this is followed by notes on municipal and industrial Oxford, including a candid history of the famous University Press and an outline of the growth of that great commercial enterprise Morris Motors, Ltd., from its humble origin twenty-four years ago. Altogether a most agreeable and informative book, which will be kept on our shelves, and consulted from time to time, long after the Oxford meeting of 1936 comes too soon to its end.

POST-OPERATIVE CHEST COMPLICATIONS

Chest complications still remain an important source of post-operative mortality and morbidity. In a recent study E. A. Rovenstine and I. B. Taylor[1] analyse two years' experience with an improved anaesthetic record system at the Wisconsin General Hospital. The investigation comprised a total of 7,874 anaesthesias, both general and local, administered for a large variety of operative procedures. All respiratory complications attributable to the operation were included, constituting a total of 6 per cent.: pneumonias accounted for 0.7 per cent., atelectasis for 0.5 per cent., bronchitis for 0.3 per cent., and "cough" (mild and severe) for 4.4 per cent. The incidence of post-operative respiratory complications was greater during those months in which respiratory diseases had an increased prevalence among university students; but weather conditions appeared to play no part. The presence of any respiratory tract infection, even mild pharyngitis or oral sepsis, substantially increased the incidence of post-operative complications. The influence of the anaesthetic agent was not marked, and this statement applies even to the distinction between general and local agents. (These last three points are also emphasized in Mr. R. C. Brock's paper.[2]) The anaesthetic technique was an important factor, but the incidence of complications more nearly paralleled the surgical procedure involved. The degree of narcosis and the duration of the operation distinctly increased risk. Brock bases his paper on the analysis by D. S. King of 7,065 operations performed at the Massachusetts General Hospital, when an incidence of 8.9 per cent. of pulmonary complications was noted, and on the detailed personal observation of eighty-five cases at Guy's Hospital. He stresses the fact that no single cause, but a combination of causes, is responsible for most chest complications, and that bronchial infection and imperfect bronchial drainage are important determining factors. The latter fact accounts for the high incidence of these complications in adult working-class males, in whom chronic bronchitis and a limited costal respiration due to fixation of the costal cartilages and ribs are so frequently found in this country. A diagnosis of bronchitis, the author states, is often made too casually. Atelectasis, increasingly diagnosed as the clinical features of the condition are becoming more widely known, is discussed in detail. The importance of the differentiation of this from pneumonia is stressed not only in regard to prognosis but from the point of view of treatment, which in atelectasis is succinctly summarized in Mr. Rowlands's dictum: "Confer upon the patient the freedom of the bed." True lobar pneumonia Brock considers a rare complication (only one case in his series of eighty-five). Bronchopneumonia is a serious condition and often follows atelectasis. Lung abscess is discussed next, and the frequency with which simple empyema and subphrenic abscess are missed is emphasized. Finally, he points to the not infrequent association of phthisis, particularly with abdominal operations.

[1] *Amer. Journ. Med. Sci.*, 1936, cxci, 807.

ENTERIC FEVER IN FRANCE

It is common knowledge that the Latin countries of Western Europe and their possessions in Northern Africa are a frequent source of enteric infections in visitors from this country, and it is therefore of interest to inquire how these infections are chiefly conveyed. As it concerns France, this question is very fully answered by Dubreuil[3] in a review which leads to some important practical conclusions. The incidence of enteric fever in France has diminished very greatly, even within the past thirty years, and deaths per 100,000 now stand at about 4, whereas in Spain and Italy they were recently 13 and 11 respectively; the figure given for England is 0.6. Nevertheless, 1,635 deaths (in 1930) from a wholly preventable disease argues a state of affairs calling for some attention. Dubreuil's principal conclusion is based on a map indicating the frequency of the disease in different Departments of France. A black area of incidence above the average occurs in the interior of the north-west (Departments of the Meuse, Haute-Marne, and Meurthe-et-Moselle), where there are apparently geological impediments to securing a safe water supply. Apart from this isolated blot, black areas line the Atlantic and Mediterranean coasts and appear nowhere else. That this distribution of the disease is due to

[2] *Guy's Hospital Reports, Centenary Number*, 1936, xvi (Fourth Series), 191.
[3] *Rev. d'Hyg.*, 1936, lviii, 321.

the consumption of shellfish is capable of proof by other means if it were not sufficiently evident without them. It appears that the cultivation and marketing of oysters has been under some legislative control in France since 1923, although this control is far from being fully effective, but other shellfish are exempt, and mussels, for example, from a notoriously dangerous area near Marseilles continue to find a market. The industry itself is resentful of interference, and, whether conscious or not of the effect on the consumer, prefers the fattening qualities of polluted waters to the more arid safety of alternative beds which in some instances have been provided. The moral of all this for the visitor to France is obvious: to avoid uncooked shellfish is apparently to obviate a considerable proportion of the total risk. We in England derive our greater security from the dangers of consuming oysters from the voluntary control exercised by the Fishmongers' Company, the effect of which, though not exactly measurable, has undoubtedly been to reduce oyster-borne typhoid to an almost negligible quantity. One disturbing conclusion reached by Dubreuil is that vaccine, whether given by injection or by the mouth, is not an efficient prophylactic. We depend largely on other countries for our knowledge of the effect of this proceeding, and in the case of Bezredka's oral method of vaccination entirely, since under ordinary conditions we have no population sufficiently at risk to study its effects. That immunization against enteric fever is possible is proved by a large volume of past experience obtained in the Army. For indications of the best type of vaccine and system of dosage, as judged by actual preventive effect, we are at present dependent on experience in other parts of the world, and the collation of evidence of this kind from foreign sources is a task that might well engage the interest of the statistician.

EMPHYSEMATOUS BLEBS AND BULLAE

A paper by Eugene Freedman[1] under this title is of interest from three aspects: the fairly recent controversy on "annular shadows"; modern views on the congenital origin of emphysema; and the practical relation of the latter to spontaneous pneumothorax. As early as 1917 Fishberg[2] drew attention to the fact that an annular shadow in a skiagram did not always represent a cavity in the lung, but that it might be due to a localized pneumothorax. Subsequently other authors expressed a similar opinion; and nearly all such annular shadows came to be regarded as examples of interlobar hydro- or pneumo-thorax or localized pneumothorax. As, however, no post-mortem work in support of the theory was forthcoming, this diagnosis was made with decreasing frequency. The solution of the problem was brought a step nearer when Laurell[3] proved experimentally in calves that emphysematous blebs and bullae cast ring-shaped shadows on the skiagram. It is important to distinguish the two forms: both are localized air pockets within the lungs, but whereas the blebs are situated immediately underneath the pleura, the bullae are in the lung tissue itself; Miller[4] has described the mechanism of their formation. Isolated blebs and bullae may occur in connexion with local indurative and productive changes in any part of the lung without a generalized emphysema. They may be found at any age, even in children, whose lungs rupture more easily than those of adults, especially in association with conditions in which an extensive mechanical misuse of the lung has taken place (whooping-cough, pneumonia, asthma). Blebs and bullae do not always produce radiologically recognizable shadows; and experimentally in calves Laurell has shown that the ring shadows are produced by a zone of atelectasis in the neighbouring alveoli caused by pressure of the air pocket. Recently several authors, and especially Kjaergaard in his excellent monograph,[5] have shown the importance of emphysematous blebs and bullae in the production of spontaneous pneumothorax in healthy persons, a fact which must be stressed in view of the tendency to look upon spontaneous pneumothorax as undoubted evidence of a tuberculous lesion. The second part of Freedman's article comprises the detailed case reports of five cases of blebs and bullae, radiographically examined, four of whom came to necropsy. His conclusions, in view of the increasing use of chest radiography, are of practical importance. Blebs and bullae are recognizable in skiagrams as localized areas of increased brilliance surrounded most commonly by hairline-like curved and annular shadows, and the lungs need not show any evidence of generalized emphysema. Attacks of asthma or of strenuous cough, aortic aneurysms, mediastinal or lung tumours, patches of atelectasis or pneumonic consolidation, may lead to the formation of blebs and bullae by interfering with the normal expiratory mechanism. Occasionally an emphysematous bleb or bulla may closely simulate a tuberculous cavity; and it is possible that some tuberculous cavities may have been originally emphysematous blebs which have been secondarily infected. Finally, Freedman stresses their importance in the production of spontaneous pneumothorax, and points out that the so-called annular shadows thought to be due to encapsulated localized pneumothorax mainly on account of the rapid decrease in their size might be really caused by emphysematous blebs and bullae.

THE TANNIN CONTENT OF TANNINLESS TEAS

In an interesting discussion on tea tannins at a recent joint meeting of the Society of Public Analysts with the Food Group of the Society of Chemical Industry, Dr. Maitland[6] pointed out that the term "tannins" embraces a very complex group of substances. They are divided into the three classes of hydrolysable, condensed, and unclassified; the last, unfortunately, is the largest of the three and includes tea tannin. Dr. Nierenstein,[7] however, put forward a provisional formula for one variety of tea tannin. Two papers[8,9] dealt with the tannin content of tea leaf and tea infusion. The tannin content of black China tea is about 10 per cent. of the dry weight of the leaf, and the corresponding figure for Indian and Ceylon teas is 12 to 15 per cent. It is common knowledge that tea becomes much stronger and harsher when the duration

[1] *Amer. Journ. Roentgen. and Rad. Ther.*, 1936, xxxv, 324.
[2] *Arch. Int. Med.*, 1917, xx, 739.
[3] *Acta Radiologica*, 1929, x, 72.
[4] *Amer. Journ. Roentgen. and Rad. Ther.*, 1926, xv, 399.
[5] *Spontaneous Pneumothorax in the Apparently Healthy*, Levin and Munksgaard, Copenhagen, 1932.
[6] *The Analyst*, 1936, lxi, 288.
[7] Ibid., 1936, lxi, 294.
[8] Mitchell, C. Ainsworth: Ibid., 1936, lxi, 295.
[9] Norman, P. J., and Hughes, E. B.: Ibid., 1936, lxi, 303.

of infusion is prolonged, and this is always ascribed to the increased extraction of tannin from the leaves. The amounts of tannin removed from tea leaf by three minutes' and ten minutes' infusion is 11.5 and 13.8 per cent. respectively, and the corresponding figures for non-tannin solids are 20.6 and 21.9 per cent. These differences are surprisingly small and suggest that the changes in tea produced by prolonged infusion are of a character which, although obvious to the taste, cannot at present be detected by chemical analysis. A paper[10] of particular interest to medical men is one on "tanninless teas." Twenty-nine samples of tea were analysed, all of which were advertised either to be free from tannin or at most to contain very little. Analysis showed that the tannin content of tanninless tea was almost the same as that of ordinary tea, and in the case of Indian and Ceylon teas ranged from 9.9 to 16.4 per cent., with an average of 12.8 per cent. ; in twenty-two samples the tannin content fell within the range of 11 to 14.1 per cent. Analysis in a previous paper[9] of nineteen samples of ordinary teas (blended and unblended Indian and Ceylon) showed values from 11.8 to 17.3 per cent., with an average of 15.1 per cent. tannin. In fifteen cases the results of the analyses of tanninless teas were communicated to the packers, who in consequence altered their label. The author tabulates the advertised claims and the results of analyses. A typical entry is "advertised as free from tannin: 12.7 per cent. tannin found." These tanninless teas have, of course, been advertised extensively for use by sufferers from gastric disorder. We are glad to learn that advertising a tea which has a normal tannin content as being free from tannin contravenes Section 30 of the Food and Drugs (Adulteration) Act, but it was not thought advisable to take legal proceedings in any of the cases mentioned above. It is of some importance to the medical profession to know how unlikely it is that a tea advertised as free from tannin will contain appreciably less tannin than ordinary tea. A discussion that followed these papers showed that at present chemical analysis does not help much in estimating the commercial value of a tea, for this depends on the flavour and the appearance of the leaf, factors which are independent of both the caffeine and the tannin content.

PRE-COLUMBIAN SYPHILIS

Dr. Herbert U. Williams[11] of Buffalo brings forward fresh evidence of the existence of syphilis in America before the arrival of Columbus. He thus adds force to the argument that the disease was new to Europe when it was introduced at the very end of the fifteenth century and spread from country to country in an epidemic form among an unprotected population. Dr. Williams has already written on the origin and antiquity of syphilis in the *Archives of Pathology* for 1932, basing his conclusions on the lesions found in the bones of American Indians. The present paper is illustrated by representations of two pre-Hispanic skulls—the one preserved in the National Museum of Mexico City, the other from Moundsville, Alabama. He also mentions a third, which was temporarily on view in the Los Angeles Museum, and believes that it is now in the Wellcome Research Institution in London. This third skull, with several long bones, was identified as part of the skeleton of a basket-maker Indian from Arizona who probably lived about 1,800 years ago. One of the skulls illustrated by Dr. Williams shows extensive gummatous ulceration with necrosis of the frontal bone ; in the other the disease was in process of repair.

[10] Bagnall, H. H.: *The Analyst*, 1936, lxi, 310.
[11] *Arch. Dermatol. and Syphilol.*, 1936, xxxiii, 783.

SIR CLIFFORD ALLBUTT, 1836-1925

One hundred years ago, on July 20th, 1936, Thomas Clifford Allbutt was born at Dewsbury, in Yorkshire, where his father was vicar from 1835 to 1862. Sir Clifford Allbutt was Regius Professor of Physic in the University of Cambridge 1893–1925, and President of the British Medical Association 1916–1921. A bronze bas-relief portrait of him was unveiled in the Allbutt Library of the Cambridge Medical School in May, 1929, by Sir James Crichton-Browne, who is still with us, and well, at the age of 96. On that occasion Sir Humphry Rolleston, Allbutt's biographer and successor in the regius chair, said that the life pilgrimage of the man they commemorated that day fell into three main periods. The first comprised school days at St. Peter's, York, a classical scholarship at Caius College, Cambridge, medical studies at St. George's Hospital, and a year in Paris ; the second comprised twenty-eight brilliant years as consulting physician at Leeds and three years in London ; followed by thirty-two years at Cambridge as regius professor. Sir James Crichton-Browne's intimate association with Allbutt began in the middle period, as long ago as 1865, and their friendship lasted until Allbutt's death on February 22nd, 1925. In the course of nearly sixty-five years of active professional life Clifford Allbutt made many additions to the science and art of medicine. "Some of these are now so incorporated in common knowledge and practice that our indebtedness in this respect is largely forgotten, such as the invention of the form of clinical thermometer now in use, the description of syphilitic disease of the cerebral arteries, and the separation of hyperpiesia or the condition of high blood pressure of obscure origin from that of kidney disease. . . . He was a scholar in the broadest sense, a profound medical historian, and a persistent advocate of the need for a sound general education as a basis of medical training."[1] On Sunday last a special service at Dewsbury Church was attended by members of the medical profession, the St. John Ambulance Brigade, and representatives of civic life.

THE HALF-YEARLY INDEXES

The usual half-yearly indexes to the *Journal* and to the *Supplement* and *Epitome* have been printed ; they will, however, not be issued with all copies of the *Journal*, but only to those readers who ask for them. Any member or subscriber who wishes to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this.

[1] *Life of Sir Clifford Allbutt*. By Sir Humphry Rolleston. Macmillan and Co. Ltd. 1929.

TREATMENT IN GENERAL PRACTICE

This article is one of a series on the management of some of the metabolic diseases met with in general practice. The first group of articles on Treatment in General Practice, thirty-five in number, was republished in book form last March by H. K. Lewis & Co., and a second volume will appear in the autumn.

MANAGEMENT OF DIABETES MELLITUS

BY

H. P. HIMSWORTH, M.D., M.R.C.P.

PART II

Hypoglycaemic Attacks

The symptoms due to excessive insulin action are protean in their manifestations, the one point they possess in common being that they are peculiar sensations which tend to occur at a definite time each day. Exercise enhances the action of insulin so that attacks may be due to an unusual degree of exercise, a reduction of the food intake, or an excessive dose of insulin. The two former causes can be elicited from the history and suitably corrected; the latter requires more detailed consideration.

For hypoglycaemic attacks during balancing the next higher calorie diet should be given; attacks in the balanced patient, whose urine is sugar-free, should be treated by reducing each dose of insulin by 5 units, continuing such reductions until the attacks cease. Then, if sugar has reappeared, cautiously increase the insulin, one dose at a time, until the sugar disappears or is present only in small amounts (green reduction of Benedict's solution).

Should attacks appear in a patient who is receiving his full diet, and yet whose urine always contains sugar, increase the time interval between the insulin injections and the meal. Often this will clear the urine of sugar and stop the attacks. Often patients are encountered whom it is impossible to render sugar-free without precipitating hypoglycaemic attacks. In such cases the dose of insulin should be maintained as high as possible short of causing attacks, and the glycosuria may be disregarded. So long as these patients are acetone-free they may pass sugar continuously without coming to any harm. Instruct every diabetic to carry three lumps of sugar, and to take these on the first appearance of symptoms of hypoglycaemia.

Routine Care

Once the diabetic has been balanced he passes into the stage of routine care. He should be seen two or three times at fortnightly intervals; then, if his condition is satisfactory, at monthly intervals; and finally, if he is securely balanced, at intervals of two or even three months. Such long intervals between visits are permissible provided it has been impressed upon the patient that if he ever feels ill he must at once call in the doctor. At each visit the patient should bring for examination two specimens of urine, the one passed half an hour before and the other two hours after breakfast.

Treatment at this stage has four main objects:

1. The early detection and treatment of exacerbations of the disease.
2. The further adjustment, when necessary, of diet and insulin.
3. The anticipation and prevention of deterioration of the patient's condition.
4. The care of the general health.

Exacerbations of the disease manifest themselves early by a change in the urine picture. The first sign is the reappearance of, or increase in the degree of, glycosuria in the after-breakfast specimen of urine. Later the same change is seen in the before-breakfast urine. If the exacerbation is serious acetonuria follows, and usually appears first in the specimen collected before breakfast. Provided glycosuria alone is in evidence there is no immediate danger. The patient should be seen more frequently, and the insulin increased in the same manner as in the later stages of balancing until the urine picture is again satisfactory. But should acetone appear the patient should be seen every other day, and at every visit each dose of insulin must be increased by 5 units until acetone disappears. The glycosuria should then be cleared as outlined above.

Adjustment of the insulin dosage is often necessary shortly after balancing. It has been noted that at this point some specimens of urine still contain sugar—a safeguard against the hypoglycaemic attacks which may occur in the balanced patient when insulin action is enhanced by increased exercise. When the urine specimens are found clear of sugar at any of the routine visits, reduce the dose of insulin by 5 units. Continue this reduction, keeping the breakfast dose slightly larger than the evening dose, until sugar reappears. Then increase insulin cautiously until the urine is just cleared of sugar. In this way hypoglycaemic attacks will be avoided.

Adjustment of the diet is involved in the third object of treatment—the prevention of deterioration. It is a general clinical impression that if a diabetic gets fat his condition deteriorates. The patient should keep a record of his weight, and the physician should discover from the appropriate tables the normal weight for a person of his height and age. If the weight exceeds this figure the diet should be reduced, but if the weight is below normal a higher calorie diet can be allowed. For women past the menopause this is often a counsel of perfection, but if in these cases the weight cannot be reduced it should not be permitted to increase.

Certain mild cases not requiring insulin will be found to remain consistently sugar-free, and the dietetic restrictions may here be justifiably relaxed. Begin by allowing the patient to eat as much protein and fat as he desires; later add carbohydrate slowly to the diet.

With regard to the general health the practitioner's main concern is the detection of sepsis. Sepsis has a markedly deleterious effect upon diabetics. If a diabetic feels ill when he is receiving his full complement of calories, or if the urine picture shows a sequence of exacerbations, then some condition other than diabetes is present. Pulmonary tuberculosis must be excluded, and pyorrhoea, sinus infection, etc., sought for and, if present, treated. Middle-aged and elderly diabetics should be acquainted with the early signs of gangrene, instructed how to care for their feet, and told to report immediately should any untoward symptoms or signs appear in the feet.

Management in Intercurrent Illness

Infection causes rapid, but often temporary, deterioration in the diabetic's condition, and if the infection is of any severity acetonuria appears. The golden rules for

Diet 5.—Invalid Diet

DIET A	Weight in Grams			DIET B	Weight in Grams		
	Carbohydrates	Proteins	Fats		Carbohydrates	Proteins	Fats
BREAKFAST				BREAKFAST			
Bread-and-milk—				Bread 2 oz.	30	2	—
Bread 1 oz.	15	1	—	Butter ½ oz.	—	—	6½
Milk 6 oz.	9	6	6	Milk 5 oz.	7½	5	5
Sugar 1 level teaspoonful	5	—	—	Tea or coffee; sugar 1 lump or 1 level teaspoonful, 1 egg if desired	5	—	—
Tea with milk 2 oz.	3	2	2				
	32	9	8		42½	7	14
MID-MORNING							
Lemonade—							
Lemon juice and water; sugar 2 level teaspoonfuls	10	—	—				
DINNER (*a*)				DINNER			
Egg flip—				Fish 2 oz., in	10	—	—
Milk 8 oz.	12	8	8	Milk 1 oz.	1½	1	1
1 egg	—	6	5	Potatoes 3 oz.	18	1½	—
Sugar 1 level teaspoonful	5	—	—	Cereal pudding—			
3 cream crackers	15	—	—	Rice or other cereal ½ oz., milk 7 oz.			
				Or	23	7	7
Or	32	14	13	Bread pudding—			
				Bread 1 oz., ½ egg, milk 5 oz., saccharin			
DINNER (*b*)							
Bovril, oxo, beef tea, clear soup	—	—	—				
2 cream crackers	10	—	—				
Cereal pudding—							
Rice ½ oz., milk 7 oz.	23	7	7				
	33	7	7		52½	9½	8
2 P.M.							
Lemonade as at mid-morning	10	—	—				
TEA				TEA			
Tea with milk 2 oz.	3	2	2	Tea with milk 2 oz.	3	2	2
Bread 1 oz.	15	1	—	Bread 1 oz.	15	1	—
Butter ½ oz.	—	—	6½	Butter, ¾ oz.	—	—	6½
	18	3	8½		18	3	8½
SUPPER (*a*)				SUPPER			
Ovaltine or Horlick's ½ oz., or Benger's ¾ oz.	10½	2	1	Milk 7 oz.	10½	7	7
Milk 6 oz.	9	6	6	Bread 1¾ oz.	26	1½	—
Bread 1 oz.	15	1	—	Butter ½ oz.	—	—	6½
Butter ½ oz.	—	—	6½	Orange or apple 3 oz.	6	—	—
Or	34½	9	13½		42½	8½	13½
SUPPER (*b*)							
Bread-and milk—							
Bread 1½ oz.	18	1	—				
Milk 6 oz.	9	6	6				
Sugar 1 level teaspoonful	5	—	—				
	32	7	6				
9 P.M.							
Lemonade as at mid-morning	10	—	—				
Total Weight in Grams	145	26	29½	Total Weight in Grams	155½	28	44

controlling diabetes during an intercurrent illness are to keep the urine always absolutely free of acetone and to treat the sepsis as quickly as possible. To abolish the increased production of acetone more carbohydrate must be utilized, and to achieve this end usually more insulin and often more carbohydrate is required.

Mild Illnesses

From the diabetic point of view a mild illness is one in which the patient can eat an invalid diet, as in influenza and mild gastro-enteritis. An invalid diet such as Diet No. 5 should be prescribed, and the urine tested frequently. If insulin is being taken the daily dose should be split into three parts, and a dose given before each of the three main meals. If acetonuria does not appear and the glycosuria remains moderate (green reduction), treatment is adequate; if the glycosuria is in large amounts (red and yellow reductions) the doses of insulin should be rapidly raised so as to prevent the development of acetonuria; if acetonuria develops despite these measures 50 grams of sugar (4½ oz. kia ora lemonade in half a pint of water, served ice-cold, is a convenient preparation) and 20 units of insulin should be given mid-morning, mid-afternoon, and at midnight, in addition to the invalid diet and the usual three doses of insulin. Later, if necessary, the insulin is raised still further until acetonuria disappears. When with improvement the glycosuria begins to diminish the insulin dosage is rapidly lowered so that a trace of sugar is constantly kept in the urine.

Severe Acute Illness

A severe acute illness is one in which no definite dietetic regime can be followed—for example, pneumonia, post-operative states, etc. The patient is allowed to eat whatever he fancies, and 50 grams of sugar are taken at breakfast time, mid-afternoon, and midnight. If the patient does not usually require insulin, 15 units are now given with each dose of sugar; if he does usually require insulin, 25 units are injected with each dose. If acetonuria appears the insulin doses are raised, and, if necessary, extra doses of sugar and insulin are prescribed; if the glycosuria clears up the doses of insulin are lowered. Acid. hydrocyan. dil., 3 minims, may be taken with

advantage half an hour before each dose of sugar to lessen the tendency to vomit.

Should the patient vomit the food or sugar the stomach should be washed out, acid. hydrocyan. dil. given, and a further effort at oral administration made two hours later. If vomiting persists despite this the urine is watched closely, and on the appearance of acetone two pints of 7½ per cent. glucose in normal saline and 70 units of insulin are administered either subcutaneously or intravenously. This is repeated as often as acetonuria develops, attempts being made meanwhile to induce the patient to take food by mouth. By these means the diabetic can be controlled during any illness.

Mention may be made here of the pregnant diabetic. The great danger in these cases is a sudden ketosis, which is signalled by the rapid appearance of acetonuria. Test the urine frequently, and on the first appearance of ketosis institute treatment as for a mild intercurrent illness until acetonuria is abolished.

Finally, it will probably have been remarked that no mention has been made of blood-sugar estimations as a guide to treatment. It has been my experience that they are not only unnecessary, but also that the information they yield is insignificant compared with that which can be gained from testing a sequence of urine samples.

INTERNATIONAL CONFERENCE ON SOCIAL WORK

The third International Conference on Social Work (the first was held in Paris in 1928 and the second at Frankfort in 1932) brought to London in the third week of July a large number of earnest folk, especially women, from every European country, the United States and the British Dominions, several countries of Latin America, and India and the Far East. The delegates numbered well over one thousand. The purpose of the conference was to constitute a forum for the exchange of experiences and impressions regarding the place of social services in the modern world—namely, services concerned with communal health, education and recreation, material welfare, social adjustment, and unemployment. It was a real conference, not a succession of set papers, and in one of the most popular of the sessions—that on recent changes in local community life—representatives of a dozen countries (Dr. LETITIA FAIRFIELD being the spokesman for Great Britain) sat round a table on a raised platform and for more than two hours conducted a conversation, which by means of microphones was made audible to the general assembly. The conference divided itself into five commissions, one of which dealt with health subjects, with Professor W. W. JAMESON as its chairman and Dr. HAZEMANN of France as rapporteur. The work of these commissions was presented in summary at a final meeting which was addressed by the Duke of Kent, patron of the conference.

Duty of the Community to the Cause of Health

A special session was organized by the Hospital Almoners' Association and discussed the duty of the community to the cause of health. The speakers were Dr. ERNEST BARKER, professor of political science of the University of Cambridge, and Miss ANTOINETTE CANNON of the New York School of Social Work.

Professor Ernest Barker made a strong plea (as did many other speakers in the course of the conference) for the maintenance of voluntary service in a free channel. There was no sphere of life, he said—whether education, health, or anything else—in which an Englishman would desire the State to be all in all. Least of all would he desire it in the service of health.

"We all like to physic ourselves a little, be it only the herbal remedies our mothers taught us to use. We like to choose and support our own voluntary hospital or friendly society. It is in the blood. It is part of what we call freedom. Freedom, for us, consists very largely in freedom to choose—and for that matter to leave when we get disgruntled—the voluntary institutions which offer themselves freely to our choice."

Cure and prevention had both been stressed, but positive methods of community action in the cause of health, by which he meant health education, especially for young people, had been less regarded. It was impossible to divorce the cause of national health from the cause of national education. Every doctor and every nurse was something of a teacher; every teacher was something of a doctor. Perhaps that was a dangerous saying. If teachers presumed too far on their medical powers and practised, say, orthopaedics as well as pedagogy, they would be getting above themselves and beyond their function. But there remained a large sphere in the life of every school which was concerned with the promotion of physical health and well-being, a sphere which the teacher might well share with the doctor.

Professor Barker referred to three plans or suggestions lately put forward to provide a better foundation of physical health for young people. The first was the "ten-year plan for children," which was published, with a foreword by Lady Astor, in the autumn of last year. It was a plan to provide the healthiest possible material environment for the school-life of the child, and also to establish a national system of open-air nursery schools for children from 2 years of age. The second was contained in the Board of Education circular on physicial education, education not only for those attending school but for young persons in general and particularly the unemployed. The third was the recently published report of the University Grants Committee proposing more adequate provision in the universities for physical training. These suggestions were in the spirit of true eugenics, aiming at the preparing of good stock which would in its turn be the parent of good stock.

The Uses of Medical Social Work

Miss Antoinette Cannon said that in addition to the most obvious use of medical social work in aiding in the elimination of sickness there was a further use, important though less regarded—namely, as an aid in living with the effects of sickness, or as an aid to personal development under disability. Disability and disease were not one and the same thing, though closely connected. A recent case study about to be published made it clear how many factors entered into disability besides anatomical or physiological impairment. She did not look forward to a time when all human beings would be normal in form and functioning.

"No doubt the bacterial enemies will be conquered, one by one, the chemical and mechanical problems of growth and birth will be solved, and perhaps the ageing process will be subjected to delay. . . . But so long as there is change in the world, the races of living organisms will be subject to conflict, and the race of man most of all, because of its own mobility and restlessness; and conflict means accident, injury, disability, and early death. No sooner did man cease to be bitten by the sabre-toothed tiger than he began falling out of aeroplanes, and I suppose that when he has air-conditioned this planet to his liking, he will begin to move on to some other. Will the medical social workers of that day be arranging to send the unadaptables back to earth, where they can live under more accustomed and favouring conditions of atmosphere and gravity?"

She added that social workers sometimes seemed in their zeal for prevention to attach too little importance to the comfort and happiness of old people and hopeless invalids, persons known to be approaching death.

"Doctors and nurses know better. There is no one for whom the present is negligible, no matter what the outlook for the future may be. Sometimes it seems as if the nearness and certainty of death enhanced the value of the present hour as nothing else can do; as if the only way really to savour life were to take away its future."

It seemed a good use of medical social work if by its means some relaxation, courage, and order could be brought to the patient and the family during a chronic illness, whether its course was long or short.

Dr. Howitt, M.P., who presided, mentioned that the Institute of Hospital Almoners, of which he was chairman, had increased its work enormously during the last two or three years. There were more candidates for the position of almoner than ever before, and the continually growing demand could not be supplied. This was one of the few professions which were not overcrowded.

PREVENTION OF TUBERCULOSIS

THE ANNUAL CONFERENCE

The twenty-second annual conference of the National Association for the Prevention of Tuberculosis was held in the Conference Hall of the County Hall, Westminster Bridge, London, from July 16th to 18th. The four subjects chosen for discussion were: (1) significance of the examination of contacts ; (2) protection of the adolescent and young adult from tuberculosis ; (3) need for closer co-operation between the tuberculosis services, the maternity and child welfare service, and education authorities ; and (4) tubercle-free herds, present position and policy.

Sir ROBERT PHILIP, chairman of the association, presided, and the conference was inaugurated by Sir KINGSLEY WOOD, M.P., Minister of Health.

Sir Kingsley Wood referred to the falling tuberculosis mortality, and praised the work done under the tuberculosis schemes, stressing the part played by the association in preventive work since its foundation. At present there were in this country 281 approved dispensaries and 570 resident institutions, with 29,000 beds for the treatment of tuberculosis. He considered, however, that the drop in mortality was not due entirely to the schemes, but also to the improved sanitation and housing, better feeding, pure milk supply, etc. He deplored the fact that no fewer than 5 per cent. of the 59,000 new cases of tuberculosis last year were not notified to the medical officer of health until after death. Finally he emphasized that the educational side of the tuberculosis work of local authorities still needed developing.

Sir ROBERT PHILIP followed with some introductory remarks, in which he condemned the criticisms made of lavish expenditure in tuberculosis administration without adequate results and of apathy in regard to tackling the problem as a whole. The official figures showing a 75 per cent. drop in the tuberculosis mortality in the last fifty years were proof enough of the contrary. The scheme of administration in England was unsurpassed by that of any other country. The efforts to combat the disease, however, must not be slackened, particularly in view of the fact that there is no lowering of the incidence of phthisis in young adults.

Examination of Contacts

Sir ARTHUR MACNALTY, Chief Medical Officer of the Ministry of Health, in opening the discussion on the importance of the examination of contacts, quoted figures of the number of cases of tuberculosis discovered as a result of such examinations. Statistical inquiries showed that the incidence of morbidity and mortality of the disease was much greater in contacts than in the general population. The most important object of contact examination was the detection of the primary infecting case ; but it was also a means of discovering the early case, and enabled measures to be taken in the home which were calculated to render contacts less liable to contract tuberculosis. Finally, it afforded a great opportunity for clinical research.

Mr. FRANK KIERNAN, director of the New York Tuberculosis and Health Association, said that in America the effort to discover cases of phthisis was being directed away from the examination of contacts, whom it was difficult to persuade to attend for examination, and towards the more intensive case-finding represented by *x*-raying and/or tuberculin-testing groups of the population, such as school children, college students, and industrial employees. He referred to the investigation by Henry D. Chadwick in Massachusetts: 400,591 school children had been Pirquet-tested, representing 40 per cent. of the school enrolment, and 103,462 had been *x*-rayed. One in 380 of the Pirquet-positive children were found to have the adult type and 5.62 per cent. the childhood type of tuberculosis. The method was expensive, and should not supplant contact examination, but it added a stimulus to the community generally to consider tuberculosis seriously, and enabled valuable projects, such as preventoria, summer health camps, additional nutrition, etc., to be inaugurated. Mr. Kiernan also referred to the success of the methods adopted in the United States to eradicate bovine tuberculosis.

Dr. F. J. BENTLEY, divisional medical officer, London County Council, described the results of an inquiry he had made among the metropolitan borough tuberculosis officers. Contact examinations in regard to searching out early and otherwise undetected cases of the disease had proved somewhat of a disappointment, but had been found useful for other subsidiary and general public health reasons. In regard to children, about half the tuberculosis officers were only lukewarm as to the significance and usefulness of the method, but as many as three-quarters were emphatic about its value in adults. In 1935, of 4,146 adults examined, 6 per cent. were found to have phthisis, while of 4,195 children contacts only 1 per cent. were found to be phthisical. [It is to be noted in this connexion that tuberculosis is apparently not considered (as it should be in children) a general systemic disease, an active focus anywhere in the body requiring treatment as a preventive measure against phthisis later.] Dr. Bentley then pointed out that an index of 2.5 possible contacts to every case of tuberculosis would give a figure of 6,000 contacts requiring constant supervision in London. In London 66 per cent. of the total number of sputum-positive females and 34 per cent. of the total number of sputum-positive males were between 16 and 30 years of age. It would appear, therefore, that, since with the existing organization it would be impossible to tackle all the contacts, it would be well to concentrate on the examination of young adults, especially women.

Dr. HALLIDAY SUTHERLAND stressed the importance of searching out the contacts, even if it involved repeated visits to the home. The average of about one contact examined per death from tuberculosis, in England as a whole, was not good enough. The problem should be tackled on a larger scale.

Dr. G. B. DIXON, chief clinical tuberculosis officer, Birmingham, emphasized that the results obtained from contact examination depended upon the thoroughness of the investigation, a correct assessment of the findings, and the application of measures necessary to protect those exposed to infection. This involved tuberculin-testing, *x*-ray investigations, examination of faeces or gastric contents for tubercle bacilli, and the provision of beds for observation. He described the results of these measures in Birmingham. In contacts of sputum-positive cases 8.3 per cent. were found to suffer from tuberculosis from birth to 5 years, 4.6 per cent. from 6 to 10 years, 2.7 per cent. from 11 to 15 years, and 10.8 per cent. at 16 years and over. He indicated the importance in children of tuberculosis of the benign type, such as intrathoracic adenitis, epituberculosis, chronic miliary tuberculosis, and pleuritis, which might expose them to the risk of meningitis and possibly the adult type of pulmonary tuberculosis later. The importance of these cases is also shown by the finding of tubercle bacilli in the gastric contents. These children required segregation and treatment.

Protection of Adolescents and Young Adults

In opening the discussion on the protection of the adolescent and young adult from tuberculosis, Dr. R. R. TRAIL examined some of the factors said to be responsible

for the maintained tuberculosis incidence in young adults. The most important factor was undoubtedly the tuberculization of the community. The disease lies latent in the majority, and slowly spreads under physical or physiological strain in the minority, until it manifests itself as open phthisis. The only real protection was early detection. Mass *x*-raying, as already practised in America and elsewhere, and as recently carried out on an experimental scale by Wingfield and McPherson, was the only effective method. Such a scheme, spread over twenty years, would in the end prove less expensive than the treatment of numerous cases of phthisis, and the loss to the State of so many individuals at their most useful age period.

Dr. JANE WALKER gave the results of investigating a small number of patients, aged 15 to 25 years, in regard to points of family history, adequacy of food, and conditions of life (anxiety, work, leisure, and amusements). The cinema bogy could be disposed of. The importance of fatigue as a factor in causation was confirmed, as was the importance of housing. Her suggestions were that medical examinations begun in school should continue to be carefully carried out, and that all young persons, before entering industry or college, should have a full medical examination, including an *x*-ray report. Nutrition was the most important factor in tuberculosis regarded as a social disease. Housing and education played a much smaller part.

Dr. S. VERE PEARSON (Mundesley) drew attention to the important part played in the prevalence of phthisis in adolescents and young adults by the discouragements to which youth was specially prone. The mental strain of industrial depression, unemployment, low wages, and the sorrows and trials of war were more important as a factor in producing active tuberculosis than under-nutrition and overcrowding. He elaborated his subject in a most interesting manner.

Co-operation between Public Health Services

On Friday, July 17th, the discussion on the need for closer co-operation between the maternity and child welfare service, the school medical service, and the tuberculosis service was opened by Dr. W. T. MUNRO (Glenlomond Sanatorium). He defined the aims and purposes of the school and maternity and child welfare services, and gave figures of the considerable incidence of tuberculosis at the age group from birth to 5 years. He stressed the importance of " infection " at that age, and of its detection at the earliest possible moment. Some medical officers seemed to have difficulties due to the failure to appreciate the varied manifestations of the disease in the young child. In the child florid pulmonary tuberculosis, because it was a late and uncommon manifestation, was not as important as the affected joint, or the bone or gland abscess which followed on the primary infection. The possibility of tuberculosis should be kept in mind whenever any question of delicacy in a young child was under consideration. Even in children of school age the mortality from pulmonary tuberculosis was far from negligible, and non-pulmonary tuberculosis was a definite problem. The speaker gave evidence from his own experience in support of the view that phthisis in adults may be referred to infection in childhood. There should be close co-operation between the three services mentioned ; and, as they were now under one central authority, this should be an easy matter. Officers must be better trained in the recognition of the varied evidences of infection, the child welfare medical officer must be informed of all notifications of tuberculosis, and the school medical officers should be aware of every family from which a notification of a case of tuberculosis was received. Constant interchange of information between the three staffs was essential. The time to initiate treatment was at the moment of infection, and not when pulmonary tuberculosis was discovered in the adult.

Mr. BAILIE STEWART REID, convener of the Health Committee, Glasgow, described the incidence of childhood tuberculosis in Glasgow since 1875, and the reorganization of the Public Health Services as a result of the Local Government (Scotland) Act of 1930. Close co-ordination of the services had been the chief aim. The speaker gave several examples of the work resulting from this.

Dr. LETITIA FAIRFIELD stressed the value of the maternity and child welfare services in the prevention of tuberculosis by teaching of general hygiene, increasing resistance to infection, and by affording opportunities for the medical supervision of mother and child. Medical examinations at ante-natal clinics and attention to the nutrition of the expectant mother were most important. It was desirable that there should be free intercommunication between the medical officers of maternity and child welfare clinics and the tuberculosis officers in regard to knowledge of tuberculous families and reports on suspected contacts. Finally, she stressed the importance of organizing institutional treatment for tuberculous maternity cases. There were difficulties in providing suitable accommodation and in persuading mothers to take advantage of it.

Dr. G. MACDONALD (M.O.H., Battersea) stressed the need for co-operation of the services, indicating the considerable mortality rate from tuberculosis in London in the first quinquennium, and at 5 to 15 years, and described the method of co-operation existing in the administrative county of London. He discussed the problem of childhood infection in regard to prognosis, and concluded that it ran a benign course and required no special treatment. He was of the opinion that no method of treatment of childhood infection influenced the subsequent development of the disease in the adult. Co-operation of the services was therefore required to deal with the relatively small number of clinically active cases of tuberculosis in childhood, and the main effort should be concentrated on the adolescent and adult populations from whom the children became infected.

Tubercle-free Herds

For the discussion on tubercle-free herds the chair was taken by Sir FREDERICK HOBDAY. The opening paper was read by Major D. S. RABAGLIATI, chief veterinary officer, West Riding County Council. He pointed out that eradication of tuberculosis from cattle was as much an agricultural as a public health question. Up to recently the Government and local authorities had done little or nothing to stimulate eradication measures, and the Ministry of Agriculture had taken no steps till last year. The report of the Committee on Cattle Disease of the Economic Advisory Council in 1935 had been instrumental in pushing the Government to make a scheme to assist farmers to eliminate the disease. The speaker discussed the attested herd scheme of the Ministry of Agriculture and the Milk (Special Designations) Order, 1936, of the Ministry of Health. The breeder as well as the milk producer should be assisted, and no measures could be successful without improving the present-day methods of calf-rearing. Despite the great progress made in the United States of America with its accredited herds, even there the disease had not been eradicated in most States after more than ten years' work.

Major BRENNAN DE VINE (Birmingham) stated that 7 to 10 per cent. of the milk supply of this country contained living tubercle bacilli. The loss to agriculture due to tuberculosis was heavy: in 1935 22,203 animals were dealt with under the Tuberculosis Order, and this did not represent the entire loss. The Order, in its present state, was futile as a weapon against the spread of the disease. The percentage of bovines affected with tuberculosis varied considerably in different districts, from 7.6 to 38.2 per cent. Eradication could successfully be carried out in self-contained herds, but not in " flying " herds—that is, those whose numbers were made up by introducing from time to time animals bought elsewhere. Although there were many advantages to be gained by building up and maintaining tubercle-free herds, agriculturists were slow in taking advantage of the tuberculin test. The speaker gave several reasons for this. Extension of the Tuberculosis Order and providing compensation for reactors would undoubtedly prove a great advance in the eradication of the disease.

Dr. L. JORDAN, chief veterinary officer, West Sussex County Council, emphasized the need for the provision of sanitary buildings on farms, the owners of which were contemplating eradication of tuberculosis. He described the success attending the establishment of tubercle-free herds in the south-west of Scotland. In England the only incentive at present was the escape from the levies of the Milk Marketing Board. This had caused the number of tubercle-free herds in England to be doubled within the last year. He criticized the inclusion of a paragraph in the Third Schedule of the Milk (Special Designations) Order, 1936, prohibiting the animals being vaccinated with living abortion vaccine.

Several speakers took part in the subsequent discussion, amongst whom the Hon. Mrs. STIRLING, as a certified milk producer, stressed the difficulty in which the middle-aged farmer, used for many years to haphazard methods, had in understanding sterility precautions, etc. She considered the designations of milk most confusing for and ill-understood by the public, and this confusion had become worse confounded by the alterations made in the new Order. The old Grade A milk was a very bad milk indeed. Lord ROWALLAN pointed out that some of the older veterinary surgeons did not understand or were physically incapable of carrying out the tuberculin test, and this made the farmer lose confidence in it.

On Saturday morning, July 18th, a meeting, under the chairmanship of the MARCHIONESS OF TITCHFIELD, was held, at which the aims and methods of the Christmas Seal Sale for Tuberculosis were described. In the afternoon a visit was paid to Burrow Hill Sanatorium. The colony, which is the property of the association, is the only institution in the country for the treatment and technical education of tuberculous youths between the ages of 13 and 19 years.

HIS MAJESTY'S HOUSEHOLD

THE MEDICAL APPOINTMENTS

A supplement to the *London Gazette* of July 20th announces the following medical and dental appointments to His Majesty's Household, to date from July 21st, 1936.

Physicians in Ordinary :
Lord DAWSON OF PENN, G.C.V.O., K.C.B., K.C.M.G., M.D., P.R.C.P.
Lord HORDER, K.C.V.O., M.D., F.R.C.P.
Sir E. FARQUHAR BUZZARD, Bt., K.C.V.O., M.D., F.R.C.P.

Physicians Extraordinary :
Sir MAURICE CASSIDY, K.C.V.O., C.B., M.D., F.R.C.P.
Professor JOHN A. RYLE, M.D., F.R.C.P.

Serjeant Surgeon :
WILFRED TROTTER, M.D., M.S., F.R.C.S., F.R.S.

Surgeons :
Sir THOMAS DUNHILL, K.C.V.O., C.M.G., M.D.
Sir JAMES WALTON, K.C.V.O., M.S., F.R.C.S.

Surgeon Oculist :
Sir STEWART DUKE-ELDER, M.D., F.R.C.S.

Consulting Surgeon Oculist :
Sir WILLIAM LISTER, K.C.M.G., K.C.V.O., M.D., F.R.C.S.

Manipulative Surgeon :
Sir MORTON SMART, K.C.V.O., D.S.O., M.D.

Surgeon Apothecary to His Majesty and Apothecary to the Household :
Sir STANLEY HEWETT, K.C.B., K.C.V.O., K.B.E., M.D.

Physician to the Household :
ARNOLD STOTT, B.Ch., F.R.C.P.

Surgeon to the Household :
Sir JAMES WALTON, K.C.V.O., M.S., F.R.C.S.

Surgeon Oculist to the Household :
FRANK ANDERSON JULER, M.B., F.R.C.S.

Surgeon Dentist to the Household :
FRANCIS DESMOND DONOVAN, C.V.O., L.D.S.

Surgeon Apothecary to the Household at Windsor :
Sir HENRY L. MARTYN, K.C.V.O., M.B., F.R.C.S.

Surgeon Apothecary to the Household at Sandringham :
Sir FREDERICK WILLANS, K.C.V.O., M.R.C.S., L.R.C.P.

MEDICAL HOUSEHOLD IN SCOTLAND

Physicians in Scotland :
JOHN COWAN, M.D., D.Sc., F.R.F.P.S.
Sir ASHLEY W. MACKINTOSH, K.C.V.O., M.D., F.R.C.P.Ed.
ALEXANDER GREIG ANDERSON, M.D., F.R.C.P.

Extra Physician in Scotland :
Sir ROBERT WILLIAM PHILIP, LL.D., M.D., F.R.C.P.

Surgeons in Scotland :
Professor JOHN FRASER, *M.C.*, M.D., F.R.C.S.Ed.
Professor JAMES R. LEARMONTH, Ch.M., F.R.C.S.Ed.

Surgeon Oculist in Scotland :
ARTHUR HENRY HAVENS SINCLAIR, M.D., C.M., F.R.C.S.Ed.

Surgeon Dentist in Scotland :
LESLIE CHARLES BROUGHTON-HEAD, M.B., Ch.B., L.D.S.

Surgeon Apothecary to the Household at Balmoral :
GEORGE PROCTOR MIDDLETON, M.B., Ch.B.

Surgeon Apothecary to the Household at the Palace of Holyroodhouse :
NORMAN SCOTT CARMICHAEL, M.B.

Coroner of the Household :
W. H. L. MCCARTHY, D.S.O., *M.C.*, M.D.

QUEEN MARY'S HOUSEHOLD

Queen Mary has made the following medical and dental appointments to Her Majesty's Household.

Physicians in Ordinary :
Lord DAWSON OF PENN, G.C.V.O., K.C.B., K.C.M.G., M.D., P.R.C.P.
Sir JOHN WEIR, K.C.V.O., C.M.G., M.D.

Surgeons :
Sir ALFRED E. WEBB-JOHNSON, C.B.E., D.S.O., M.B., F.R.C.S.
Sir JAMES WALTON, K.C.V.O., M.S., F.R.C.S.

Surgeon Apothecary :
Sir STANLEY HEWETT, K.C.B., K.C.V.O., K.B.E., M.D.

Surgeon Oculist :
Sir RICHARD CRUISE, G.C.V.O., F.R.C.S.

Surgeon Dentist :
GUY BIRT, C.V.O., M.R.C.S., L.D.S.

BRITISH EMPIRE CANCER CAMPAIGN

Viscount HAILSHAM, who recently accepted the chairmanship of the Campaign, presided at the quarterly meeting of the Grand Council on July 13th.

Grants totalling £5,296 were approved: £1,187 to Dr. A. Pollard, working at the Courtauld Institute of Biochemistry at the Middlesex Hospital on a special scheme of biochemical research inaugurated by the Scientific Advisory Committee ; £150 to Dr. F. G. Spear, working at the Strangeways Research Laboratory, Cambridge, for the purchase of a low-voltage equipment apparatus, and £700 for the purchase of a 200 kV 10 mA Greinacher set ; £300 for six months for work being carried out under the direction of Mr. F. C. Pybus, through the North of England Council of the Campaign ; £1,256 for fifteen months to Dr. Alexander Haddow, who is transferring from his research appointment in Edinburgh to continue special research work at the Royal Cancer Hospital (Free) ; £320 to Mr. Nevill Willmer, working at the Physiological Laboratory, Cambridge, for technical assistance and purchase of apparatus ; and £150 for six months to Mrs. Alice Leigh-Smith, D.Ph., working under the direction of Dr. Thomas Lumsden at the London Hospital.

Grand Council considered the scheme formulated by the Central Educational Propaganda Committee, of which Dr. Malcolm Donaldson is chairman, and, following upon the experience gained in the recent lecture organization in Hampshire, Sussex, and Kent, has made a grant of £1,233 for the further development of the scheme in Buckinghamshire, Berkshire, Bedfordshire, Essex, Hertfordshire, and Surrey.

A report was received from Mr. Cecil Rowntree, senior surgeon, Royal Cancer Hospital, and one of the delegates to the Union Internationale Contre le Cancer, on the arrangements made to date for the Brussels Cancer Conference to be held in September.

The vacancy on the Scientific Advisory Committee occasioned by the retirement of Professor W. S. Lazarus-Barlow was filled by the election of Professor F. L. Hopwood, D.Sc., St. Bartholomew's Hospital.

The next biennial informal conference organized by the Campaign will be held in the spring of 1937, and authority was given to the Executive Committee to make arrangements.

Reports of Societies

SUBACUTE SEPTIC ENDOCARDITIS

At a meeting of the Osler Club on July 13th the ninth Oslerian Oration was delivered by Lord HORDER. The secretary, Dr. A. W. FRANKLIN, took the chair, and in introducing the orator referred to the relation which he bore to Sir William Osler as his medical adviser.

Lord Horder began by referring to the pleasure he took in honouring the man with whom he had enjoyed personal contact as pupil and as a junior colleague, and who had paid him the compliment of asking his help during his fatal illness. Osler's interest in endocardial infection began early in his career. Endocarditis was the subject of his Goulstonian Lectures in 1885, and he then suggested the fearsome word "malignant" for the form previously known as "ulcerative." Osler later preferred the word "septic," and he still followed him in the choice of this word. During his review of the literature in preparing the lectures Osler was struck by the protracted histories given by Wilks and Bristow. To Wilks was due the synonym "arterial pyaemia," a view of the mechanism of the process by which the most significant part of the clinical picture was achieved. Osler first ventilated his own experience of the chronic course of the disease in a paper in 1893, in which he drew attention to some of the salient features of the clinical picture as now painted. Most important of all Osler's observations at this time was the diagnostic significance of the skin lesions which justly bore his name.

> "Painful subcutaneous nodules of a peculiar form, not exactly like the fibroid nodules of rheumatic fever, but rather resembling minute emboli of the skin. The spots are painful, reddish, slightly raised, and disappear in a day or two."

Osler amplified his accounts of the chronic type of septic endocarditis at the 1908 meeting of the Association of Physicians. In April, 1909, Lord Horder published in the *Quarterly Journal of Medicine* the results of some years of study on the clinical and pathological sides of the subject. He showed that the chronic cases were invariably associated with microbes of a low order of virulence, chiefly streptococci of the salivary and faecal types. At about the same time Libman in America began a series of valuable contributions to the subject, suggesting the term "subacute" for "chronic." Libman's term "subacute bacterial endocarditis" displaced the term "chronic septic endocarditis." Lord Horder submitted to the "subacute," but compromised on the "bacterial," and preferred "subacute septic endocarditis."

Lord Horder then traced the further additions to the clinical picture—"café-au-lait" complexion (Libman), clubbed fingers (Cotton), the special form of nephritis—and referred to many of the facts known about the disease. The pathogenesis remained obscure, and in the next part of the oration he attempted to construct a synthesis that might be helpful to effective therapy. His concept of septic endocarditis was that of a "focal sepsis" in an inaccessible but vitally significant situation, inaccessible because local treatment by drainage was impossible, as was direct attack by therapeutics of the immunological or chemical sort. The relative avascularity of the septic area might well be responsible, and the subendothelial colonization of micro-organisms, the essential lesion of the disease, would not be effectively influenced by any substances in the blood stream.

Possibilities of Treatment

In conclusion Lord Horder discussed in a stimulating manner the possibilities of treatment. Because of the frequency of early diagnosis was it not possible for direct approach of the septic focus by the surgeon? He had tried diathermy in four cases with Dr. Cumberbatch, *x*-ray treatment in eight cases with Dr. Finzi and Dr. Levitt, and radium in six cases with the same two colleagues. One case from each of the last two groups recovered, but the diagnosis was open to doubt in that treated with *x* rays. In his experience only one other case had recovered, treated in the main by "immuno-transfusion." It was noteworthy that in both the recovered cases the infection was of the right side of the heart, and both became to some extent morphia addicts. Radium and *x* rays seemed worth trying, applied as precisely as possible, and even, perhaps, after removal of parts of the chest wall to expose the pericardium. He knew of no specific method; simple blood transfusion and haematinic drugs were useful, and he advised open-air treatment on the lines laid down for pulmonary tuberculosis. In all cases diagnosed early the physician should rouse himself to a dynamic attitude, although the dice are heavily loaded against him. Preventive measures could be grouped under four heads: (1) lowering the incidence of rheumatism and of scarlet fever, and therefore of valvulitis; (2) rigid attention to mouth, nose, and throat hygiene; (3) consideration of the undoubted aetiological importance of physical and emotional strain; and (4) as stressed by Thayer, prolonged convalescence from acute infections in the subjects of valvular lesions.

DRUG ADDICTION AND MENTAL HEALTH

At a meeting of the Society for Inebriety on July 14th Dr. DORIS M. ODLUM read a paper on alcoholism and drug addiction in relation to mental health.

She said that the problem of alcoholism and drug addiction fundamentally rested upon human psychology. To-day interest lay more especially in preventive medicine, and therefore primarily towards the causes of disease. Causation might be considered from two points of view: the social factors concerned and the individual factors. These interacted, but for the purposes of discussion must be considered separately. Social opinion depended upon the aggregate of individual opinions and the factor of mass psychology. Alcoholism, so far as charges of drunkenness provided a measure of its incidence, had been steadily declining from the years 1914 to 1932 from over 51 per 10,000 of the population to 7.5. In 1934 the figure was still only 9.8. National poverty or the reverse had not influenced the figures appreciably. The explanation was to be found in the realms of psychology; it lay partly in the improvement in the standard of living and consequent increase in self-respect, and partly in the improved status of women. Everything that tended to keep a man in the home militated against drunkenness. The higher the standards that women expected of men the more likely would they be to live up to them. In the upper classes drunkenness was not tolerated as it would have been fifty or sixty years ago. The psychology of social opinion in this section of society was again largely mediated by the greater influence of women, and greater companionship between the sexes was operating against alcoholism. A certain number of young people with undeveloped personalities who sought to obtain self-expression by violating the social code provided the membership of night clubs and bottle parties. The element of uncertainty led to the emotional attitude which favoured inebriety; those whose occupation was concerned with the hazards of chance were notoriously inclined to drink. Comparatively few people drank to excess because they liked the taste of what they were drinking. The main reasons for doing so resolved themselves into drinking as a social gesture—that is to say, for good fellowship—or for the effect on the emotions. Drug addiction was for the most part a solitary vice and not greatly affected by social factors; its causation, therefore, fell under the heading of individual psychology. There were a few coteries of degenerates among the upper classes and in the underworld in this country, but the true drug addict was as a rule a person with poor capacity for social contacts. In this country the condition was sporadic and numerically very rare. Methylated spirit drinking occurred to a small extent among the poorer classes. In a recently

published survey of the prevalence of drug addiction in various countries, based on official records, it was stated that in Great Britain only about 250 addicts were known to exist.

The psychology of alcoholism and drug addiction as it concerned the individual had its roots in the same fundamental causes. There was an eternal struggle in the emotional life of the individual between the fundamental instinct of aggression and the almost equally powerful instinct which led man to desire the approval, love, and society of his fellows. The harmonious personality had arrived at a balance between these forces; the less developed person tended to react to the difficulties of adjusting his personal needs to the demands of life and society by an attempt to escape. Such a method was provided by alcohol, which, by lessening the control of the higher cortical centres, diminished judgement and inhibition and gave a sense of psychological release and well-being. The rational method of preventing alcoholism, or of treating it when it did occur, was therefore by an understanding of the psychology of the individual and an attempt to resolve the emotional disharmonies. A strongly emotional incentive, such as the revivalistic type of religion, might provide a counter-incentive on the emotion level, but this had far greater dangers of relapse than the more analytic approach, which, by elucidating the fundamental conflicts, paved the way for their permanent readjustment.

The maladjusted personality was not the growth of a day or even of a year. From the preventive angle the beginning must be made with the young child, at the stage when the difficulties first presented themselves. Child guidance clinics were of the greatest possible value in this regard. In late adolescence there was a great danger of emotional disharmony leading to the habit of obtaining emotional relief through alcohol. Here again it was necessary that guidance should be available in the early stages. It was much more difficult to reclaim an alcoholic than to prevent one, therefore it was worth while for the sake of the community and the individual for the nation to afford every facility for preventive treatment. Out-patient clinics where young people could be helped were multiplying, but there was still a great lack of them and an insufficient appreciation of their value. It was from better psychological understanding of the child and adolescent, improvement in the standard of living, and, above all, from that national security which could only come with peace, that the prevention of alcoholism would be brought about.

England and Wales

Post-Graduate Medical School: The King's Visit

On the afternoon of July 14th the King paid a surprise visit to the British Post-Graduate Medical School and the Hammersmith Hospital. He was accompanied by Sir Kingsley Wood, Minister of Health, and was received by Sir Arthur MacNalty, Chief Medical Officer to the Ministry of Health, Sir Frederick Menzies, Medical Officer of Health, London County Council, Colonel A. H. Proctor, Dean of the British Post-Graduate Medical School, and Sir Thomas Carey Evans, Medical Superintendent of the Hammersmith Hospital. The King first visited the out-patient department, where patients were waiting for the two clinics in progress at the time. Professor Young, who was conducting the ante-natal clinic, and Mr. W. L. Harnett, who was concluding the fracture clinic, were presented. His Majesty then visited the library of the school, where he spoke to several students who were reading there. After a visit to the museum, where the King displayed keen interest in many of the specimens, the party proceeded to the clinical pathology laboratory, where Dr. Janet Vaughan was presented. Dr. Vaughan was surprised in the middle of a blood count, and His Majesty asked several questions about her work in blood diseases and the treatment of these conditions. Professor Kettle had just concluded a lecture and was demonstrating slides to students when the party entered the lecture theatre. Professor Kettle was presented, and by the aid of the micro-projector showed His Majesty slides on the screen. Dr. Duncan White, radiologist to the hospital, was next presented and conducted His Majesty over the recently equipped *x*-ray department. The King showed much interest in the many and varied types of instruments in use, and was pleased to hear that the equipment was all British. Sir Thomas Carey Evans then conducted the King over the block which was opened last year and a new block which is now nearly complete. Sir Frederick Menzies explained the general lay-out and design, and a visit was made to the female surgical ward and the operation theatres. The operations for the day had just been completed, and the theatre staff were still busy cleaning and sterilizing instruments. His Majesty left by the main entrance, but before doing so Miss E. Northover, the matron, and some of the sisters were presented.

Treatment of Fractures in Manchester

The Manchester Royal Infirmary was visited on July 16th by the chairman and a number of members of the Interdepartmental Committee which is inquiring into restoration of working capacity after accidents, with the object of seeing the work of the special department for the treatment of fractures which was instituted there just over two years ago. Mr. Walter Cobbett, chairman of the Board of Management of the Infirmary, received the visitors, to whom the surgeon-in-charge demonstrated the routine work of his clinic, which treats 2,500 cases of fracture each year. The out-patient department was visited during the regular weekly session, at which the progress of all cases of fracture under treatment is examined by the expert surgeons attached to the clinic. A number of fracture cases of different kinds and *x*-ray photographs were seen. The committee was also shown the plans of the new orthopaedic and physiotherapeutic building shortly to be erected, which will include additional accommodation and facilities for dealing with fractures. During the afternoon the visiting committee met representatives of the Manchester Joint Hospitals Advisory Board and had an informal discussion on the general question of the organization of fracture treatment and its application in Manchester.

National Council of Women

Some four hundred delegates attending the representative council meeting of the National Council of Women last week in London passed resolutions dealing with women and children. They called upon the Government to put in immediate operation the recommendations of the 1925 Departmental Committee on Sexual Offences against Young Persons, which order mental examination and report between conviction and sentence in all cases of indecent exposure, all sexual offenders indicted for their second offence, and all cases in which the court suspects mental disorder of any kind. They also demanded legislation to give effect to the recommendations of the 1932 Departmental Committee on Persistent Offenders. They requested the Government to investigate the need for mental treatment centres in connexion with municipal hospitals, and facilities for the in-patient treatment of early and mild cases of nervous and mental disorder. They also urged the provision of child guidance clinics by all local authorities, and the establishment of observation centres in connexion with juvenile courts and remand homes, so that trained psychologists and psychiatrists might make their contribution to the problem of juvenile delinquency. They called attention to the continued deplorable cases of cruelty to children and the frequent inadequacy of the sentences passed, and emphasized the need for medical examination by approved psychiatrists. They asked for an instruction that the mortality returns connected with child-bearing should distinguish those due to abortion and criminal abortion respectively from the general group of maternal deaths.

Needs of Guy's Hospital

Guy's Hospital is burdened with debt, and therefore has to use old buildings which have long outlived their usefulness. For eleven years the hospital has been able to maintain its full services only by spending more than its income. It has had to borrow money for the care of its patients and the upkeep of structure and equipment in excess of its annual income from endowments and public gifts. To-day it is faced with an accumulated debt of approximately £200,000. It is faced also with the urgent need for enlarging and rebuilding several important departments, work for which a sum of over £300,000 must be found. The ancient surgical block, built more than two hundred years ago, must be entirely rebuilt ; accommodation for nursing and domestic staff must be increased ; the crowded out-of-date dispensary must be replaced by a larger and better one ; and in other ways the hospital must be brought up to the level of modern needs. Hard times and general depression have compelled the Governors to hold their hand for more than ten years. Times are now better, but the hospital's financial position is worse. The Governors have therefore decided to make an appeal for £500,000, which will enable the debt to be reduced and urgent improvements carried out. A call for help comes also from the children's department. It is much too small, and very poorly equipped. The Guy's area of South London teems with necessitous children, born and brought up in crowded tenements and cottages, some as old as the hospital itself. Money for expansion as well as improvement is badly wanted in this section.

The St. John Ambulance Brigade

As briefly announced in our issue of July 4th, Dr. Nigel Corbet Fletcher has been appointed surgeon-in-chief of the St. John Ambulance Brigade, and will act as personal adviser to the Chief Commissioner, Sir John Duncan, in all matters concerning the medical and surgical work of the brigade. Dr. Corbet Fletcher, who gained his Rugby blue at Cambridge in 1897–8–9 and played for England from 1901 to 1903, began lecturing in first aid in 1908. War-time service involved constant instruction in first aid as assistant to the late Sir James Cantlie at the Regent Street Polytechnic and the College of Ambulance. Since 1915 Dr. Corbet Fletcher has answered queries on first aid and allied subjects addressed to the national journal *First Aid*, and for *The Gazette* since 1928, when the Order introduced its own periodical, and he still continues this voluntary duty month after month. Besides being the author of books on first aid and home nursing, he compiled in 1930 the first official history, in book form, of the St. John Ambulance Association and Brigade.

CORRESPONDENCE

Anatomy in the Curriculum

SIR,—The interesting letter on "Anatomy in the Curriculum" by Dr. Donal Sheehan, from the anatomy department of Manchester University, in your issue of July 4th (p. 43) calls for more than passing notice because of the valuable support it gives to the demand for reform in the teaching of anatomy on the lines suggested by the British Medical Association report and recommendations. Dr. Sheehan does not share this view, his letter being obviously directed to countering the statements of "certain letters" referring to the teaching of anatomy, and to suggesting an alternative "solution to the problem." Dr. Sheehan frankly admits the following three premisses:

1. "Much of the anatomical detail taught is useless to the student in his clinical years and post-graduate career."
2. "After two years' 'grind' in the dissecting room the great majority of students reach their final year with little anatomical knowledge."
3. "Some of the time at present spent in the dissecting room could be more profitably utilized."

This is surely a damning indictment of the present system, and it can safely be affirmed that the recommendations for reform in the teaching of anatomy made by the British Medical Association committee and accepted by the Association were made because of their concurrence with Dr. Sheehan's view. Not content with the above indictment, Dr. Sheehan makes it more emphatic in the following terms:

"It is pertinent to seek the causes of the present failure of students to retain the essential anatomical knowledge in the clinical years. There are, I believe, two main reasons for this defect: (1) the fundamental essentials of anatomy required for diagnosis are obscured in the dissecting room in a sea of minute detail ; and (2) the wide gap between the pre-clinical and the clinical teaching."

He then proceeds to establish the truth of the first of these reasons by other accurate and telling facts. Up to this point Dr. Sheehan is clearly in agreement as to the need for drastic changes in teaching. Let us now consider his "solution to the problem." Dr. Sheehan concludes by suggesting that "the solution to the problem is not that arrived at by some of your readers, but lies rather along two roads: a new outlook on anatomical teaching and examination, and a closer co-operation between the teachers in the clinical and pre-clinical subjects."

Here again every would-be reformer will find himself in complete agreement with Dr. Sheehan. That agreement terminates, however, when he goes on to conclude with the following passage:

"The present teachers of anatomy in this country are for the most part in agreement in regard to the former, and great improvements have been made in this direction throughout the country. The new proposals of the General Medical Council have taken a big step in the second direction—namely, the bringing together of the pre-clinical and clinical years."

The first of these statements is, I submit, effectively disproved by Dr. Sheehan's own view as expressed above. The necessary reform in the teaching of anatomy is certainly not to be met merely by such measures as the addition of an *x*-ray equipment and the like to a system of teaching which is so much out of keeping with the needs of the times. And without belittling in any way the improvements inherent in the proposed new curriculum, if adequately carried out, there is undoubtedly a widely expressed feeling of dissatisfaction in the profession as to this not meeting the present needs. The public has an interest in this subject equally with the profession.

A Government inquiry extending over three years (Committee on Scottish Health Services) has just been concluded, and its report is now available. While the question of medical education was held to be outside the scope of the inquiry, the evidence submitted to the committee has led it to make an important pronouncement in the following terms:

"The evidence we have received from medical organizations and from various other sources shows a general awareness of the need for changes in the training of the student for general medical practice. . . . The question of medical training, however, is not within our sphere ; it is a matter in the first place for the profession itself and for the educational bodies."

The Scottish Departmental Committee proceeds to emphasize its unanimous view in bold black type in the following sentence:

"Unless medical training is such as to produce the preventive outlook, many of our recommendations for the development of health policy will be stultified."

The implication in this statement appears unmistakable. It receives reinforcement from the recent decision of the Royal Institute of Public Health and Institute of Hygiene to pass unanimously a resolution at their recent congress in Edinburgh in the following terms, and send it to the General Medical Council and also to the Privy Council:

Resolution. "That this meeting is of opinion that the time has arrived when the curriculum for medical students should include more specific training in preventive medicine, and urges the General Medical Council to revise the courses accordingly."

The General Medical Council, in its interim report, indicated that in its consideration of the subject it had to proceed under the terms of the Medical Acts. Further legislation may perhaps be necessary before the reforms required are obtainable. Whatever betides all will agree with the sound dictum of Dr. Sheehan, in relation to anatomy, that this subject is the basis of accurate diagnosis.—I am, etc.,

Dreny, N.B., July 13th. CHALMERS WATSON, M.D.

Mortality and Phthisis in Mental Hospitals

SIR,—Though Dr. Livesay's conclusion that "phthisis can be practically abolished in all mental hospitals" may be, as Dr. Kimber suggests, an extravagant assumption, it is, I believe, none the less true that if the absence of disagreeable odours be taken as the criterion of satisfactory ventilation the wards of many of the older mental hospitals must be regarded as sadly lacking in fresh air. I can also, from personal experience, vouch for the efficacy of free ventilation in bringing about a diminished death rate from tuberculosis. At Leavesden, which houses a heterogeneous collection of infirm mental defectives and chronic cases of insanity, the percentage of tuberculous cases in 1923 was 5.09, with a total mortality rate of 8.53. In 1933, following structural alterations in the system of ventilation and improvements in the general hygiene of the patients, the percentage of tuberculous cases was 1.5 and the total mortality rate 3.0.

Unfortunately, though an adequate supply of fresh air can be secured by the simple expedient of opening all windows, such a method of securing ventilation in wards and dormitories seldom fails to produce local draughts, and however enjoyable the changing play of the outdoor wind on our bodies may be, no one can be expected to endure without complaint the chilling effects of a direct draught indoors. It is therefore not a little surprising to learn that there was no discomfort in the wards of St. Andrew's Hospital, even in the winter. However, I agree with Dr. Livesay that the minimum temperature for mental wards is unnecessarily high, and I have found that a "comfort zone" of about 55° F. is seldom complained of, except perhaps by visiting members of committees and sometimes Commissioners of the Board of Control.—I am, etc.,

R. M. STEWART.

Leavesden Mental Hospital, Herts, July 14th.

Mirror Test in Pulmonary Tuberculosis

SIR,—In your issue of July 11th Drs. R. C. Cohen and W. Burton Wood record the results of the "mirror test" as a means of demonstrating *M. tuberculosis* in cases of pulmonary tuberculosis. We agree that wider use should be made of this test—in fact, of any test likely to lead to a more definite and confident diagnosis. For many years we have made use of sputum obtained during laryngoscopy from cases reporting no sputum, which, when examined, frequently showed the presence of *M. tuberculosis*. There is no indication from our work that this method is more reliable than concentration. Sterility of the mirror is important, but more so is it necessary to be absolutely sure that no acid-fast material is adherent to the mirror. Careful cleaning as well as sterilization is essential.

In the report of the Joint Tuberculosis Council ("Tubercle Bacilli in Sputum") cited by Drs. Cohen and Burton Wood, reference is made to results of concentration tests made by Dr. H. G. Trayer (not Frayer). In the same section of that report the results of concentration tests on 200 cases are reported from the Cheshire Joint Sanatorium. If the results in the 200 cases are combined in the same manner as those of Dr. Trayer they show an increased accuracy over the direct smear examination of 23 per cent., compared with 18.18 per cent. of Dr. Trayer and 13 per cent. with the "mirror test." Our experience at the Cheshire Joint Sanatorium is that any pathological material which will reveal *M. tuberculosis* by direct smear microscopical examination will certainly show it on concentration, even if only a salivary or mucoid specimen is obtained. Collection for a concentration over a longer period of time materially enhances the probability of obtaining *M. tuberculosis* if present; excretion is often both scanty and intermittent. In the special cases cited the "mirror test" is obviously a very valuable method, but in cases where any sputum is available concentration is a more delicate and reliable test.—We are, etc.,

PETER W. EDWARDS.
L. J. CUTBILL, B.Sc.

Cheshire Joint Sanatorium, Market Drayton, July 14th.

Acute Pancreatitis

SIR,—Mr. Norman C. Lake, in his article on acute lesions of the upper abdomen, in the *Journal* of June 20th (p. 1239), emphasizes the value of an estimation of the urinary diastase in the diagnosis of acute pancreatitis. I can confirm his view that a high level of urinary diastase in acute abdominal cases indicates acute pancreatitis, but I would suggest a minimum of a hundred units as much more reliable than fifty units for the purpose of diagnosis. It is well to remember that occasionally the diastase figure is within normal limits even with a severe acute pancreatitis. It is quite obvious that it would have been impossible for Mr. Lake to have considered in detail every disease he mentioned in the course of one short paper, and, bearing this in mind, I would like to make the following comments, based on seventeen personal cases.

In the majority of cases rigidity is admittedly slight, but it is necessary to recognize that exceptions do occur. In one of my cases the rigidity could only be described as board-like, and in some other cases it was quite well marked. Mr. Lake's statement that "the pulse in pancreatitis is very poor and the degree of shock is very profound" is too dogmatic, and if accepted as almost invariable will lead to errors of diagnosis. I had under my care in April, 1931, a stout female patient on whom I operated about twelve hours after the onset of the attack. Dr. William Howie of Waterloo, in reply to my note about her, wrote as follows:

"When I first saw her in the morning I was uncertain how seriously to take her symptoms, as she is a highly nervous person and the pulse rate was not more than 82. . . . My observation of the pulse conflicts with Moynihan's statement in the *Practitioner* of January 'that the pulse is rapid and very feeble.'"

On admission to hospital the pulse was quite strong though the patient was in intense pain, and the rates recorded in the few hours immediately preceding operation were 72 and 66 beats per minute. One of the house-surgeons who saw the case doubted the existence of a

serious lesion in this nervous patient complaining of intense abdominal pain, with little rigidity, and a slow, full pulse, but operation revealed a very severe degree of acute haemorrhagic pancreatitis. This is not by any means an isolated example of a slow pulse in association with this disease.—I am, etc.,

Liverpool, July 20th. PHILIP HAWE, Ch.M., F.R.C.S.

Catarrhal Jaundice and Infective Hepatitis

SIR,—Having read Dr. T. E. Lowe's article in the *Journal* of July 4th (p. 9) on a case of catarrhal jaundice followed by infective hepatitis, it occurred to me that a different line of treatment in the early stage of this girl's illness might have prevented the unfortunate later illness which proved fatal.

If catarrhal jaundice is due to extension of inflammation from the stomach and duodenum to the bile ducts, as it most probably is, I think it would be rational to advise rest and sedatives until the inflammation subsides rather than irritants such as calomel and magnesium sulphate, which keep stimulating the inflammation, thus weakening the resisting power of the affected parts and allowing infective organisms to develop. Is it not possible in the case reported that the treatment given rather tended to keep the inflammation from subsiding? Hence adhesions, and probably a chronic inflammation which later flared up in the affected organs.

I would have treated the patient in her first illness with bismuth carbonate, sodium bicarbonate, small doses of morphine, and a very bland diet, milk for choice, and if desired skimmed to avoid fats. As the inflammation in the ducts disappeared the bile would flow naturally in a comparatively short time. I have treated a large number of cases of catarrhal jaundice in children, at one time a regular epidemic in the fruit season. All had a mild illness and were quite well in a week or two. The colour, of course, took some time to become normal as absorption took place gradually. In my opinion, giving calomel and magnesium sulphate in these cases is like giving purgatives in acute colitis.—I am, etc.,

Co. Wicklow, July 14th. W. F. MOORE, M.B.

Drainage of the Maxillary Sinus

SIR,—May I be allowed to reply to the comments made on my article on drainage of the maxillary sinus, which appeared in the *Journal* of June 27th (p. 1299).

I was pleased to note that Mr. O'Malley (July 4th, p. 45) has been using a technique similar to mine and that he intends to follow mine "when an opportunity offers." His criticism is directed against my assertion that the discharge escapes through the surgical opening below the inferior turbinal, aided not only by respiratory air currents, but also by gravity and the ciliary action of the epithelium. Mr. O'Malley does not think that gravity has anything to do with it, because "the normal antrum, with its ostium at the summit of the cavity, is not kept drained of its secretions by the forces of gravity." This argument is scarcely tenable. It is admitted that the normal serous secretion of the antrum is propelled by the surface-sweeping action of the cilia and the respiratory air current only. The pathological secretion, however, apart from being very much more abundant, is of a higher specific gravity and accumulates on the floor of the antrum. It is therefore only reasonable to assume that gravity helps to empty the sinus of its pathological secretion through the surgical opening, in spite of the fact that the floor of the antrum is slightly below the level of this opening. If gravity has nothing to do with the choice of the site for the antrostomy, why is it not performed below the middle turbinal? One would then get the full advantage of the ciliary action directed towards the anatomical ostium. Mr. O'Malley's second point, that there is no evidence to show that the cilia ever reverse the direction of their mobility, which is always towards the anatomical ostium, has been abundantly proved and is not disputed. It does not, however, alter the fact that the cilia of the floor of the antrum and its immediate vicinity, in their sweeping action along the medial wall towards the anatomical ostium, propel the discharge through the surgical opening; the latter is, after all, on the same wall, only below it. I feel sure that gravity and the ciliary action of the epithelium of the floor of the antrum are important factors on which the success of maxillary sinus surgery depends.

Mr. Friel, in his interesting letter (July 11th, p. 99), suggests an alternative to my method—namely, zinc electrolysis for fifty minutes to cauterize the muco-periosteum, the antrum having previously been punctured with a trocar and cannula; this, he says, ensures a permanent opening. I am convinced that an opening in the bone left by the passage of even the largest trocar is not big enough to ensure free drainage of inspissated muco-pus. Although the opening in the bone need not be too large, it must be adequate.—I am, etc.,

London, W.1, July 16th. ARTHUR MILLER, F.R.C.S.Ed.

Conservative Treatment of Laryngeal Diphtheria

SIR,—I have read with interest the article by Dr. James H. Clarke on the conservative treatment of laryngeal diphtheria (*Journal*, July 11th, p. 66). In Luton in 1934 there was a severe outbreak of diphtheria, and over thirty cases of laryngeal diphtheria were admitted to the wards of the isolation hospital. Both Dr. Archibald, the medical officer of health, and myself, as deputy medical officer, were in favour of conservative treatment; in over thirty cases thus treated there were only two deaths. The treatment given followed very closely that outlined by Dr. Clarke.

Immediately on admission the cases were treated by steam kettles, given antitoxin varying in amount from 16,000 to 48,000 units, and a mixture containing tinct. camph. co.; brandy, given orally, was used fairly often, and in a few cases a hypodermic injection of camphor was necessary. Tracheotomy was performed (not by us) on one case admitted in a very toxic condition with, unfortunately, an unsuccessful result.

I am in complete agreement with Dr. Clarke's opinion that unnecessary operative intervention can and ought to be avoided. I consider that a mortality of 6 per cent. in over thirty cases of laryngeal diphtheria, many of them very severe, is satisfactory.—I am, etc.,

D. F. MCCARTHY,
Co. Tipperary, July 19th. County Medical Officer of Health.

Dislocations of the Carpal Semilunar

SIR,—Mr. A. F. Goode's article in the *Journal* of July 4th (p. 11) raises several interesting points. The anterior rotation of the semilunar in the third-degree dislocation depends on the comparative strengths of the anterior and posterior ligaments attached to the semilunar and radius. The anterior surface of the semilunar is larger than the posterior, and the anterior and posterior radio-carpal ligaments are approximately the same thickness; therefore, the ligamentous surface being smaller posteriorly, the posterior ligament is weaker and more easily ruptured. The inner fragment of the fractured scaphoid follows the displacement of the semilunar, because hardly any ligaments are attached to this portion of the bone.

The spontaneous reduction of the posterior dislocation of the wrist, which provides the force for the displacement of the semilunar, would appear to act in a similar fashion on this relatively unattached part of the scaphoid.

I have recently treated three cases of dislocation of the carpal semilunar. As Mr. Goode points out, reduction is easy in the recent dislocation. Dorsiflexion of the wrist and pressure on the displaced semilunar is not nearly so valuable a manœuvre as traction on the hand. A further point in reduction was brought out in the case of a second-degree dislocation which had been missed for eighteen days. The effect of manipulation, using sodium evipan anaesthesia, was observed under the *x*-ray screen. Traction over a five-minute period did not widen the gap between the os magnum and radius sufficiently to allow reduction by additional direct pressure on the semilunar. Reduction, however, was effected by forced flexion of the wrist. This patient returned to work as a motor mechanic five weeks after the reduction of the dislocation.

The three cases have been complicated by fractures. Of two cases of second-degree dislocation, one showed a fractured cuneiform and the other a fractured scaphoid. The last case was one of third-degree dislocation and showed fracture of the scaphoid, the semilunar, and the styloid process of the radius. A feature of the two cases with fracture of the scaphoid is the size of the inner fragment of that bone. In the one case it was more than half the size of the bone, and in the other more than two-thirds. The prognosis for union and ultimate function should be good. Bankart has shown that a large inner fragment is produced by impaction of the head of the os magnum directed into the concavity of the scaphoid with the hand in a position of ulnar adduction. It appears, then, that dislocation of the semilunar with fracture of the scaphoid is commonly produced by a fall on the outstretched hand, which is deviated to the ulnar side. It would seem, therefore, that by using forcible flexion of the wrist it is possible to reduce second-degree dislocations of the semilunar any time up to three weeks after the injury.—I am, etc.,

HENRY S. SHUCKSMITH, B.Sc., M.B., F.R.C.S.

General Infirmary, Leeds, July 13th.

Urticaria After Pleural Aspiration

SIR,—While reading the note on "Giant Urticaria following Aspiration of the Pleural Effusion," which appeared in your issue of May 16th, 1936 (p. 996), I was struck with its similarity to a case which I recently had, and which I think is of sufficient interest to report.

I was called in to see a Chinese girl, aged 17, who was suffering from marked dyspnoea, and who gave a history of irregular fever, cough, and pain in the right chest for over a fortnight. Examination revealed absolute dullness over practically the whole of the right side, a well-marked Grocco's triangle and displacement of the apex beat to about one inch outside the nipple line. An aspiration was performed and about two and a half pints of clear fluid removed with evident and gratifying relief to the patient. Owing to lack of facilities gas replacement was not done. Two days later she complained of severe itching, mainly over the back of the trunk and the extremities. These parts were covered by an urticarial rash. Calcium lactate, 10 grains t.i.d., was given internally, and calamine lotion applied externally. The condition improved, and completely disappeared in four days. It has not recurred since. There was no previous history of any allergic manifestations.

This case decreases considerably the possibility of the condition being caused by sensitization due to accidental auto-inoculation, as this was the one and only aspiration performed. Again, the ready response to calcium therapy lends support to the alternative theory suggested by Dr. Fergus Paterson—namely, calcium depletion.

I wish to thank the State Medical and Health Officer, Pahang, for permission to publish this note.—I am, etc.,

P. K. MENON, M.B.

Mentakab, Pahang, F.M.S., June 22nd.

"Under the Influence"

SIR,—Medical evidence in that most difficult of all medico-legal problems—"driving under the influence of drink"—has always been a subject for discussion. My own experience recently, when I was called to the police station at midnight to examine, at his request, a patient of mine who had been charged with this offence, was somewhat illuminating, and not altogether agreeably so. I examined him two minutes after the police surgeon had done so. I found that he could give me a clear and lucid account of what had happened, that his pupils were not dilated and reacted briskly to light; he could stand on one leg perfectly steadily; Romberg's sign was negative; and he could walk easily and quietly to the door and back. I refused to certify him as drunk, or even to say that he was incapable of driving a car. The police surgeon thought otherwise, and in his evidence in court he gave among other reasons:

1. *The Accused Smelt of Drink.*—I agree, he did. So did I, for that matter. I'd just had a whisky and soda—my second that day—previous to being called out. And as it is impossible by the smell of alcohol in a person's breath to tell if he has had two drinks or ten, and as, conversely, a person may be drunk on champagne and not smell at all, it seems to be wholly illogical to mention the fact that he smelt of drink. It is evidence that he has had a drink; it is not evidence, or part evidence, of drunkenness.

2. *His Pulse was Rapid.*—It was; it was 140. But under the stress of nervous excitement anyone will have tachycardia. Here was this man, arrested in the middle of the night, marched off to the station by a couple of policemen, charged with a criminal offence, knowing that a conviction would mean perhaps prison or at any rate the loss of his job and the jeopardizing of his career, and because under these harrowing circumstances he has a rapid pulse this is link No. 2 in the chain of evidence as to his guilt.

3. *His Tongue was Furred.*—To my knowledge the accused has had a furred tongue for three years, and yet this point was actually brought forward in a court of law as evidence, as link No. 3, that he was unfit to drive a car.

4. *His Handwriting was Illegible.*—It will be a sad day for many of my colleagues if their handwriting is ever scrutinized as to whether the illegibility should be put forward as part evidence of their alleged insobriety! When it was put to the witness that the accused went through the other tests very well the answer was, "Yes, he was rapidly recovering from the influence of drink." As if a man so drunk forty minutes previously as to be incapable of driving a car could have been the same sober individual I examined.

Without calling any evidence for the defence the case was dismissed. With costs, solicitors' fees, and my own very modest account the whole thing cost the accused—a working man—the best part of £50. I am certain that the police surgeon acted in good faith and testified to what he thought was the truth, but it is disconcerting to realize that this particular case may be multiplied scores of times, and that an innocent man must go through all this worry and expense on such flimsy clinical evidence. I do feel that perhaps a commission of the B.M.A. should consider this point—a point of appalling difficulty—as to what does constitute "incapable of driving a car," and make their recommendations to the proper authorities. Because if evidence such as a smell of alcohol, a quick pulse, a furred tongue, and bad handwriting (all of which may appertain to hundreds of thousands of normal people) is put forward as proof of drunkenness, then no motorist is safe.—I am, etc.,

X. Y. Z.

July 17th.

Adrenaline Ionization and Hay Fever

SIR,—Hay fever is recognized as an affection of the upper air passages and conjunctivae, due to hypersensitiveness to proteins contained in the pollen of certain plants; there is lachrymation, swelling of the mucous membrane, and excessive nasal discharge, and for this reason I have tried adrenaline ionization in preference to zinc ionization, which is very unpleasant for the patient. The technique is as follows:

An active probe electrode bound round by gauze dipped in the adrenaline solution (1 in 1,000) is inserted up the nostril as far as the patient can tolerate. The indifferent electrode, covered by the usual lint pad, is placed under the palm of the patient's hand, on the opposite side to the nostril being treated; thus, one hand is free to support the electrode in the nostril. A current of 10 to 15 milliamperes is applied for two minutes. The probe electrode is removed, fresh gauze bound round it, and the treatment given to the other nostril.

The immediate effect is relief of congestion, and this relief is maintained for several days; treatments given twice weekly, for two weeks, are sufficient if the patient is seen during an early acute attack; more treatments are necessary for a patient who has been suffering for some weeks.—I am, etc.,

London, W.1, July 16th. NELLIE I. LANCKENAU, M.D.

Pasteur and Lister

SIR,—The correspondent who contributes a note on the Pasteur film to the *Journal* of July 18th is in error when he states that Pasteur and Lister did not meet until 1892. They met in Paris at least as early as June, 1878 (Godlee, *Lord Lister*, third edition, p. 433), and in London, at the International Medical Congress, in August, 1881 (ibid., p. 446; and Vallery-Radot, *La Vie de Pasteur*, Chap. X).—I am, etc.,

New College, Oxford, July 19th. R. S. CREED.

Obituary

We regret to announce the death of Dr. A. D. M. GRANT at Umhlali, North Coast, Natal, on May 6th. Alexander Donald McKenzie Grant graduated M.B., C.M. at Edinburgh in 1894, and after a short visit to Canada settled in South Africa in 1896. He was for many years medical officer to the Modderfontein Dynamite Works, until, after a period of service with the British forces in East Africa during the war, he became medical officer to the Grootvlei Colliery, a post he held until his death, at the age of 71. Cultured and well read, he was a man of attractive personality, who had many friends throughout Natal. He leaves a daughter and a son, who is now a student of medicine at Edinburgh.

The following well-known foreign medical men have recently died: Dr. KEIJI OKAJIMA, professor of anatomy at the Keio University at Tokyo since 1918, founder and editor of *Folia Anatomica Japonica*, and author of a textbook on anatomy, of which the third edition will appear posthumously; Dr. R. NOGUÉ, professor at the French School of Stomatology and editor of the *Revue de Stomatologie*; Dr. ALBERT MOORE BARRETT, professor of psychiatry, University in the Michigan Medical School, Ann Arbor, and past-president of the American Psychiatric Association, aged 64; Dr. JOHN RIDLON, past-president of the American Orthopaedic Association and honorary member of the British Orthopaedic Association, aged 83; Dr. PAUL BARBARIN, formerly president of the Society of Surgeons of Paris and officer of the Legion of Honour; and Dr. THEODOR MEYER-STEINEG, extraordinary professor of the history of medicine at Jena, aged 63.

Medico-Legal

PUERPERAL INFECTION IN A MATERNITY HOME

Lindsey County Council v. Marshall

On July 14th the House of Lords delivered judgement in the case of Lindsey County Council *v.* Marshall. The hearing began in February, but was delayed by the illness of Viscount Sankey. This was an appeal from a decision of the Court of Appeal and of Mr. Justice Lawrence, sitting with a special jury at Lincoln Assizes, awarding £750 damages to Mrs. Marshall against the county council for their negligence in allowing her to contract puerperal fever in a nursing home which they manage at Cleethorpes. An account of the hearing before the Court of Appeal appeared in these columns on March 2nd, 1935 (p. 449).

The Cleethorpes Maternity Home is a comparatively small three-story building containing sixteen beds. Some of the beds are in single rooms and are known as private wards; the others are in public wards. Patients are attended by their own doctors, and the home is administered through the council's maternity and child welfare committee. A subcommittee meets at Cleethorpes every two months for the management of the home, and is advised by the county medical officer of health and his assistant, who is also medical superintendent. These medical men perform no clinical duties. In January, 1933, Mrs. Marshall arranged with the matron that she should have a private ward at four guineas a week for her confinement about July 4th, and should be attended by her own doctor. On June 30th a Mrs. Franklin was admitted to the home, and on July 4th she developed a high temperature and was taken to the Grimsby General Hospital, where she was found to be suffering from acute puerperal fever. The ward where she had been lying and the nurses who had been in contact with her were disinfected by the ordinary practice. No swabs were taken, as it was thought that the disinfection would have destroyed any organisms that may have been present in their throats. On July 9th a Mrs. Fleming was admitted; she developed a temperature the day after her confinement and a similar temperature on July 11th; she was therefore, technically, a case of puerperal pyrexia, though her attack was very mild.

On the evening of July 12th Mrs. Marshall, the plaintiff, began her labour. Her husband rang up the home and was told to bring her. They arrived shortly before midnight, and were told there was no private ward available and she would have to go into a public ward. She decided to do so on the understanding that she would be removed to a private ward as soon as possible. Neither she nor her husband nor her doctor was told that there had been any recent infection in the home. She was confined on July 13th. On July 16th four other patients developed puerperal fever, and on July 17th she herself developed the fever and suffered a very severe attack. The jury found, among other things, that the home was dangerous and that Mrs. Marshall should have been warned of the danger. The questions the House of Lords had to consider were whether there was evidence on which the jury could properly have found as they did, and, if so, whether the county council were liable in law for the negligence of their employees. Their lordships found that there was evidence to support the jury's conclusions, and the most important part of their judgements deals with the question of whether the county council could in law be held liable for the mistakes of the medical officers, the matron, or the nursing staff.

Liability of Hospital Managers

One of the most important cases on the liability of hospital managers for the acts of their medical officers is Evans *v.* Liverpool Corporation (1906). In that case a visiting physician on the staff of a municipal fever hospital discharged a child who was still infectious from scarlet fever, and the jury found that he had been negligent. The judge held, however, that the corporation was only obliged in law to provide reasonably skilful and competent medical officers, and having done so was not responsible for the wrongful acts of an officer in the course of skilled and technical service which it was not competent to direct or supervise. In Hillyer *v.* St. Bartholomew's Hospital (1909) a patient was injured at operation

and sued the hospital, but the Court of Appeal held that the hospital were not liable for any negligence of members of the team in the operating theatre, as there the surgeon was in sole control. It was not strictly necessary to the decision of that case to consider the liability of hospital authorities for their professional staffs outside the operating theatre, but Lord Justice Kennedy delivered some *obiter dicta* on this question which have been followed so often that they are as much settled law as though they had been part of the reasons for his decision of the case. In fact, the House of Lords approved them in the present case. Lord Justice Kennedy said that the governors of a hospital undertake that the patient shall be treated only by experts, whether doctors or nurses, and that these experts shall have fit and proper apparatus at their disposal, but that the hospital is not liable in damages if members of the staff act negligently in some matter of professional care or skill. It may be, however—he continued—that the hospital authority is liable for the due performance by its servants of "purely ministerial or administrative duties," such as the summoning of medical aid in emergency or the supply of proper food. Counsel for the Lindsey County Council therefore argued that, even assuming that the doctors and the matron of the home had been wrong or negligent in not closing it, or not taking proper precautions, or not warning Mrs. Marshall of the danger, yet the county council were not liable, because their professional staff had been negligent in a matter of professional care or skill which the county council were not competent to supervise or regulate.

Lord Chancellor's Judgement

Viscount Hailsham, the Lord Chancellor, said in his judgement that the correctness of the earlier decisions was not directly raised in the present case, and that nothing he said must be taken as throwing any doubt upon them. The principle laid down by the earlier cases could have no application to the present facts. The county council were not providing any medical attendance for Mrs. Marshall, and there was no complaint that the nurses were guilty of any lack of skill or care in attending her. The complaint was that the council invited Mrs. Marshall to a home which they ought to have known was in a dangerous condition, and did not inform her of the facts which constituted the danger. He saw nothing in the principle of the earlier cases which absolved the council from their responsibility: "There is no trace of any authority in those cases or elsewhere for the view that, where a corporation acts by an agent, its liability for the mistakes of that agent is any less where the agent is a medical man than where the agent belongs to any other profession or calling."

Of the other members of the court, Viscount Sankey did not deal specifically with the question of law whether the county council were responsible for the wrongful acts of their doctors and matron, but seemed to assume that they were. Lord Russell of Killowen concurred in the judgements of his colleagues without enthusiasm, feeling grave doubts not only about whether the answers of the jury, truly interpreted, meant a finding of negligence by the staff of the home, but also about whether there had been any evidence to support such a finding. Lord Macmillan was more illuminating: he said he did not doubt that in matters relating to the medical or surgical treatment of patients the hospital administrators could not be held liable for the mistakes or negligence of the medical staff, but the present case did not relate to a matter of professional treatment. He continued: "The question was one of the safety of the premises for the admission of the public, and while the appellants may well say that they could not themselves as laymen know whether there was any danger of which intending inmates should be warned, nevertheless I do not think that they can escape responsibility for the negligently mistaken view of their medical officers and matron on this point, any more than they could escape responsibility for a dangerous state of the drains in the home merely because their sanitary inspector had reported them to be in order. The appellants have a duty to take, by themselves or their officers, all proper steps to keep the premises safe for the admission of the public, or, if they have not done so, either to exclude the public altogether or, at least, to warn them of the danger." This passage will probably stand as a classical statement of the liability of hospital managers in similar circumstances for many years to come. Lord Wright, Master of the Rolls, pointed out that, in general, those who engage in an undertaking which involves expert scientific or professional skill cannot escape liability for the negligence of their expert advisers. The council claimed that hospitals and similar institutions were an exception from this rule, but he rejected that claim. The council would, he thought, have been responsible if a defective ceiling had collapsed and damaged a patient. Their duty was not different in essence from that of a householder who has to take care that persons invited into his house are duly warned of any dangers. The fact that the council necessarily relied on the knowledge and judgement of the medical officers did not the less render these officers the agents of the council to carry out the council's responsibility for their management of the home.

Unanimous Finding against Council

Their lordships therefore found unanimously that the Lindsey County Council was responsible for the errors of its medical officers and matron in not warning Mrs. Marshall that the home was dangerous. Although some of their lordships expressly stated that the earlier decisions were not questioned, it is, with respect, obvious that in practice their judgements have considerably restricted the operation of what may be called the principle in Evans *v.* Liverpool Corporation: that if the local authority appoints and pays a competent officer to perform certain duties it will not be responsible for the wrongful acts of the officer done in the course of skilled and technical service, which the authority is not competent to direct or supervise. It is difficult to imagine that if their lordships had tried Evans's case they would have come to the same conclusion as the learned judge came to in that case. Although their lordships merely said that Hillyer's case did not apply, their decision was clearly based on Lord Justice Kennedy's distinction between duties involving professional skill and purely ministerial and administrative duties. They indicated that the distinction is perhaps not quite a hard-and-fast one, and that there are certain ministerial and administrative duties which involve professional skill, but for the proper performance of which the hospital governors are none the less responsible. To warn intending patients of a danger that they may catch infection if they come into the hospital is, it appears, one of those duties.

DEATH FROM TETANUS AFTER CRIMINAL WOUNDING

Conviction for Murder

On July 4th Mr. Justice Porter, sitting at Shrewsbury Assizes, sentenced to death Ernest Robert Hill, a farm labourer 18 years old, for the murder of his sweetheart. It was said in evidence that she had quarrelled with him and given him up, and that he had taken a shot gun, had the butt and barrel shortened by a blacksmith, had met the girl in company with her sister and two friends, fired at her at close range, and ridden off on his bicycle. The girl was wounded in the arm and walked to the cottage hospital, where the wound was bandaged. The gun was an old one, only intended for shooting birds in the garden. Ten days later she died of tetanus. Her doctor said that he did not give her anti-tetanic serum, for he had known the circumstances in which she had been shot, and had considered that tetanus was most unlikely to develop. The wound was very deep, but not severe; the pellets were scattered all through the muscles. If the wound had been open, the pellets removed, and serum given, he said, she would probably have recovered. The pathologist who made the necropsy said that the cleaning up of the wound by removing tissue would have been an extensive and dangerous operation. An injection of serum would have lessened the chances of death, but there had been no indication for the giving of an injection. On the way to the hospital the girl, it was said, held her handkerchief over the wound, and the defence maintained that the tetanus might have entered the wound from the handkerchief and not when the shot was fired; and that the jury ought therefore to give the prisoner the benefit of the doubt and acquit him. Dr. J. A. Ireland, an expert called for the defence, said that it had been a regular procedure in gunshot wounds to administer anti-tetanic serum, and that in a case of the present character it might have been considerably wiser to do so. The accused man said in his

defence that he had had the gun cut down so that he could carry it in his pocket and shoot birds and rats. He had only intended to frighten the girl by firing in the air, but the gun had twisted in his gloved hand.

The learned judge, in summing up, explained the law: that it was not material whether the treatment was the best possible or whether greater skill would have prevented the death. If an act was done with the intention of doing grievous bodily harm the doer must take the reasonable and probable consequences. The jury found Hill guilty of murder but added a strong recommendation to mercy, and the judge pronounced sentence of death.

An appeal against conviction was dismissed on July 13th by the Court of Criminal Appeal, but the Home Secretary has now recommended a reprieve.

Universities and Colleges

UNIVERSITY OF OXFORD

At a congregation held on July 18th the following medical degrees were conferred:

D.M.—W. Gover.

B.M.—R. W. G. Lancashire, H. Rees, B. B. Waddy, P. R. W. Leigh, A. D. Picton, A. W. Dawson-Grove, W. E. Gibb, D. Kendall, H. M. Sinclair, A. F. Foster-Carter, E. G. Tuckwell, D. B. Fraser, D. L. Davies, P. W. Morse.

The governing body of Queen's College, Oxford, has elected Sir Wilfred T. Grenfell, K.C.M.G., M.D., F.R.C.S., to an honorary Fellowship.

UNIVERSITY OF CAMBRIDGE

The following candidates have been approved at the examinations indicated:

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—*Part I:* J. T. McGinn, I. G. McIntyre. *Part II:* R. E. Alderson, Sylvia D. Bhay, I. T. Dickson, I. Eban, N. G. Gadekar, R. B. Mehta, H. I. Osler, A. M. Rackow, O. F. W. Robinson, A. I. Silverman, A. C. Sinclair, Edith H. Smith, Florence L. Telfer, W. Tennent, D. A. Wilson.

UNIVERSITY OF LONDON

At a meeting of the Senate on July 15th Mr. W. J. Hamilton, M.B., B.Ch., was appointed to the University Chair of Anatomy, tenable at St. Bartholomew's Hospital Medical College, from October 1st.

Dr. Alexander Haddow was reappointed to the Laura de Saliceto Studentship for the year 1936–7.

Graham Legacy Fund

The purpose for which the Graham Fund was founded was to aid research in the School of Advanced Medical Studies connected with University College Hospital, and the Fund has for its object the prevention, cure, and alleviation of human disease and suffering. The post of director of the Charles Graham Medical Research Laboratories held by Professor A. E. Boycott was resigned by him, for reasons of health, as from September 30th, 1935, and the Senate appointed Professor C. R. Harington acting director. Dr. E. S. Duthie resigned his tenure of the Graham Scholarship upon his appointment as lecturer in pathology in the University of Sheffield, and it was awarded to Dr. J. C. Thomas. Under the regulations for the Graham Fund a gold medal has been awarded to Sir Thomas Lewis for research in connexion with the treatment of cardiac disease conducted at University College Hospital and its Medical School.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN

The following awards of scholarships are announced: *St. Dunstan's Exhibition:* E. S. A. de Wit. *A. M. Bird Entrance Scholarship:* A. D. Wells. *Sir Owen Roberts Memorial Scholarship:* I. M. V. King. *Lewis Memorial Scholarship:* I. G. Little. *A. M. Bird Scholarship for Clinical Studies:* E. E. Whatley. *Alfred Langton Scholarship:* B. J. Shorting. *Ellen Walker Bursary:* B. C. James. *Flora Murray Bursary:* E. M. Drown. *Mabel Sharman Crawford Scholarship:* H. Davidson. *Special Scholarships and Bursaries:* R. E. M. Bowden, B. J. H. Broadwood, J. M. Drury-White, G. L. E. Hughes, D. H. Johnston. *A. M. Bird Post-Graduate Scholarship in Pathology:* Marjorie V. Sudds, M.B., B.S., D.T.M. and H. *Mabel Webb and A. M. Bird Research Scholarship:* Frances C. Naish, M.B., B.Ch.

The following candidates have been approved at the examinations indicated:

ACADEMIC POST-GRADUATE DIPLOMA IN BACTERIOLOGY.—Catherine H. S. Begg, Evelyn M. Hill, D. L. Hughes, D. Lahiri, F. Tabet, Isabel M. Tonkin, B. Tribedi.

ACADEMIC POST-GRADUATE DIPLOMA IN MEDICAL RADIOLOGY.—S. B. Adams, *F. R. Berridge, G. Friedlander, J. J. Magner, *A. Meyer, R. K. Modi, H. E. Offord, I. Qaimaqchi, A. Rakshit, B. G. Thompson, J. A. Vote, A. J. O. Wigmore.

ACADEMIC POST-GRADUATE DIPLOMA IN PUBLIC HEALTH.—K. Biden-Steele, D. K. M. Chalmers, Mabel J. Cooke, Florence A. Craig, Patience Craig, C. M. Dighe, Janet M. Done, W. K. Dunscombe, Helen M. Evans, Leonora S. Evans, Jane O. French, *Mary L. Gilchrist, G. E. Godber, Irene B. M. Green, Marjorie K. Hall, H. D. Holt, Joyce B Dewson, Winifred A. Kane, *Elsa V. McLaggan, J. A. R. Murphy, W. J. Pinto, G. D. Pirrie, Eleanor G. Porter, T. R. Rama Pai, L. D. Sarronwala, P. N. Sathe, B. K. Sikand, G. B. Smart, R. L. Tiruchelvam, Evelyn A. M. White.

* Awarded a mark of distinction.

BRITISH COLLEGE OF OBSTETRICIANS AND GYNAECOLOGISTS

The next examination for the diploma (D.C.O.G.) will be held on October 14th (written) and October 28th (clinical and viva voce). Application for entrance to the examination (on the prescribed form obtainable from the honorary secretary, 58, Queen Anne Street, London, W.1) must be made not later than Wednesday, September 9th.

Medical Notes in Parliament

[FROM OUR PARLIAMENTARY CORRESPONDENT]

The Royal Assent was given in the House of Lords on July 16th to the Finance Act. On the same day the Lords read the Shops (Sunday Trade and Restrictions) Bill a third time and returned it to the Commons.

The House of Commons this week discussed the Government's national defence programme and voted Supplementary Estimates for the Navy, Army, and Air Force. Three days were spent in discussion of the Unemployment Assistance Regulations. It was hoped to make further progress with the Public Health Bill.

On July 21st the Select Committee on the Medicine Stamp Duty held a first meeting, and elected Sir John Ganzoni as its chairman. The meeting decided to report to the House that it should not proceed further with its inquiry before the recess. This report was laid on the table of the House that night. The chairman will decide when the next meeting shall be held after the recess.

On July 21st the Education (Scotland) Bill passed through committee in the House of Lords.

The House of Lords considered the Midwives Bill in committee on July 21st, and after the withdrawal of two amendments the Bill passed through the committee stage.

Health of the Nation

Sir KINGSLEY WOOD, in the House of Commons on July 16th, presented Estimates of £15,628,150 for the Ministry of Health in the financial year 1936–7. This was in addition to six millions already voted on account. The Minister states that the total estimates for his Department showed a net increase of about £1,200,000 over those for 1935. This increase arose mainly from increased provision for housing, rural water supplies, and health insurance. During the present year expenditure on social services, including amounts raised by local rates, would reach £420,000,000, and at least 30,000,000 men, women, and children would benefit. There had also been a considerable expansion in public works, and the amount sanctioned for these last year was practically £36,000,000. These works included large sums for hospitals.

The improvement in the health of the nation continued. The latest return furnished by the Registrar-General showed a death rate for 1935 of 11.7 per 1,000. The expectation of life at birth had increased by seven years in the last twenty years. Last year the infant mortality per 1,000 live births was 57, the lowest on record in this country, and

one which was satisfactory compared even with 1929, when it was 74. The maternal mortality rate also showed a slight decrease compared with previous years. Of persons from 5 years of age to 45, the number dying was less than half what it was fifty years ago, and under 5 it was less than one-third. At all ages women had the advantage over men; the average woman could count on outliving the average man by between twelve months and four years. The mortality of widows was higher than that of single or married women, and at all ages from 25 to 60 the mortality of married women was lower than that of spinsters. It was not revealed whether a married man had a similar advantage over a bachelor.

Infectious Diseases

Last year the principal infectious diseases showed no unusual or disquieting features. Influenza gave rise to no anxiety, and the country was entirely free from small-pox. Knowledge of certain diseases had been widely extended. Light had been thrown on the cause of scarlet fever and its relation to tonsillitis and erysipelas. Influenza had yielded some of its secrets, as was shown by the progress of some of the researches conducted by the Medical Research Council and the Ministry of Health. Unlike scarlet fever, diphtheria had not shown a loss of virulence, but against it they now had the aid of antitoxin and immunization. It was now possible by immunization of children of pre-school age to reduce considerably the danger of contracting the disease in the most susceptible years. In every sanitary district the number of cases of enteric fever had fallen step by step, precisely as facilities for water supply, sewerage, and sewage disposal had increased. Nevertheless infectious disease still caused many deaths and much disablement in youth. It was responsible for over 60 per cent. of all deaths from the ages of 1 to 15 years. At the same time there had been a decline in the mortality from infantile diseases during these age periods. Death rates at ages under 15 per 1,000,000 living had declined in respect of measles from 750 in 1910 to 210 in 1933; of scarlet fever from 200 to 63; diphtheria from 384 to 261; and whooping-cough from 789 to 237. Malaria, the scourge of the tropical world, was now recognized as the only treatment for general paralysis of the insane, and to make this treatment generally available the Ministry, in collaboration with the London County Council, maintained a laboratory where mosquitos were bred and infected with pure strains of malaria for the practice of malaria therapy. During 1935 the laboratory complied with 318 requests for this material; these requests were received from 118 hospitals in England and Wales, three in Ireland, and one in Scotland. Other institutions were also supplied, and mosquitos with benign tertian malaria were sent by air mail to clinics in Austria, Germany, and Rumania.

Unreasoning Fear of Cancer

Tuberculosis and cancer still took a deadly toll. Nearly 30,000 persons were certified to have died from tuberculosis in England and Wales last year, but this was 11,000 fewer than ten years ago. Deaths from cancer were over 60,000 every year. But cancer should not be regarded as a hopeless disease. There were means of treating it to-day such as there had never been before. Not long ago people put off consulting their doctors long after they suspected that they had tuberculosis, for they dreaded to have their convictions confirmed. That attitude was almost a thing of the past, and the same was in a large measure true of cancer. They would ensure timely diagnosis if they could banish unreasoning fear from the minds of the people. In this field the local authorities could render great assistance by judicious propaganda.

In no branch of the public health services had there been so striking a change in national outlook and methods of treatment as in the mental deficiency service. Much was being done to give better and healthier conditions of living to those mentally afflicted. Occupational therapy and recreation played an increasing part in the treatment of mental disorders. There was the organization of outdoor games and dancing, and for the improving patient in particular a good hair-cut and shampoo had a tonic value, particularly in the case of young women. The end of 1935 completed the first five years of the Mental Treatment Act, which enabled voluntary patients to be received in any public mental asylum, so that for the first time rate-aided persons could be treated on a voluntary basis. In the first year of the operation of the Act voluntary admissions represented 7.1 per cent. of the total admissions; in 1935 they were 24 per cent. Nearly a quarter of the admissions to the public mental hospitals were now on a voluntary basis. He was sometimes told that the mental deficiency service was costly, but if they failed to undertake this work they might have to pay a bigger bill for the social and other consequences.

A Nation of Medicine Drinkers

One aspect of health affairs could not be regarded with the same satisfaction. The nation's unquenchable medicinal thirst still continued, and we were rapidly becoming a nation of confirmed medicine drinkers. In Scotland the doctors generally had never adopted the custom of dispensing medicine for their patients, and patients had not been induced to consider a bottle of medicine a necessary corollary of a visit to a doctor. In England for generations doctors, with few exceptions, had dispensed medicine, and patients had come to regard a visit to the doctor as synonymous with the receipt of medicine. The cost of providing medicine per head of insured population in England regularly exceeded that in Scotland by approximately 50 per cent. No known facts connected with the incidence of disease accounted for this divergence, and no one would suggest that the standard of treatment of the Scottish practitioners was lower or that his results were less satisfactory. There were 57,000,000 prescriptions issued in 1934 under the Health Insurance Acts. Medication by drugs was not enough, or perhaps it was too much.

The Government was engaged in health efforts in co-operation with other nations, and there could be no doubt of the value and importance of the medical work under the League of Nations. British representatives on the League had played a considerable part in the periodical statistical reports on international hygiene and in the cordial co-operation between the medical men of different nations.

Housing Progress and Slum Clearance

Good health was bound up with good housing, and well over 3,000,000 houses had been erected since 1918. In recent building there has been an increased proportion of houses for people of moderate means. Out of 323,926 houses erected last year, 271,389 were built by private enterprise without assistance, and 90 per cent. of that total were houses up to £26 rateable value, compared with 70 per cent. in 1926 and 74 per cent. in 1930. During the last two years unassisted private enterprise had built small houses not exceeding £13 in rateable value at the rate of 100,000 a year, and one-third of these had been built to let. The slums were going, and already some 400,000 slum dwellers had obtained new and better accommodation. Slum dwellers were going to better homes at the rate of about 6,000 every week, and except in a few large towns the slum clearance programmes of local authorities would be completed within the five-year period. He had given in the House during the previous week figures from Manchester to dispel the suggestion that health was not improved by transfer from the slums to a new housing estate. He now had figures from Wakefield relating to two slum areas with a population of about 1,150 and a new estate with a population of 2,500. The crude death rate for the whole of Wakefield was 13.3, but in the slums it was 17.3 and on the new estate 8.3. The infantile mortality rate in the city was 6.4; in the slums it was 147, and on the new estate 43.

It was now possible to say that the great proportion of local authorities would soon proceed with the abatement of overcrowding. The standard of overcrowding set up by the Housing Act of 1935 represented the minimum amount of accommodation capable of early enforcement, and as progress was made in the present housing efforts that standard would be improved. Overcrowded families rehoused by local authorities would be rehoused on the basis of standards laid down in Section 37 of the Rehousing Acts as appropriate to the rehousing operations of local authorities. The surveys of overcrowding had, for the most part, been made, and for at least three-quarters of the authorities in the country and at least three-quarters of the area January 1st would be the appointed day for bringing the overcrowding code into operation. August 1st was the date by which all local authorities were to submit general proposals for the provision of rehousing shown to be necessary by the overcrowding survey. Slum clearance and overcrowding would provide a substantial building programme, but one well within the powers of the local authorities and one which would not compete with other activity within the building industry.

He was glad to say that there had been a good response by large numbers of the transferred population to the better conditions in which they found themselves, and there was a real pride in the new homes. There was a great need for providing clubs and social institutions, and he attached importance to community centres and matters of that kind in the new estates. The local authorities possessed the necessary statutory powers for providing these, and many were already doing something. Equally necessary was it to secure the right type of leaders and organizers among men and women who could make these community centres successful. On March 1st, 1933, over 9,000,000 acres of land in England and Wales were being planned. That figure was now nearly 20,000,000 acres, or more than half the total acreage of the country,

and the half under control was that in which building development was going on. For regional planning 122 executive joint committees were in existence, many of which operated over wide areas, and much had been done by way of interim development control.

There was no need for him to refer to maternity and child welfare work in detail, because he had reported its continued progress while introducing the Midwives Bill. Further steps had recently been taken through local authorities to secure systematic and periodical health visiting for children under the age of 5 who did not attend school. This was a matter for the local authorities, but he had no reason to suppose they would not do all they could. He had also encouraged day nurseries for young children whose mothers went to work or whose conditions were such that their health would benefit by daily supervision in a day nursery. In urban areas the water supply was adequate to meet present needs and any demands likely to arise in the near future. In rural areas, with the aid of £1,000,000 grant, the back of the rural water problem had been broken. Schemes had been undertaken in 2,350 parishes at a total estimated cost of £7,000,000, and since March, 1934, loans had been sanctioned in addition, totalling £1,340,000 for schemes in 400 parishes. Regional Advisory Water Committees had been established in eight areas for a population of 14,000,000. He awaited a report from a Joint Select Committee of both houses which was considering the conservation and organization of water supplies and resources, and hoped it would be possible to take further action upon it.

Opposition Views

Mr. ARTHUR GREENWOOD said social services which had been built up for three or four generations were one of our greatest national achievements, but they had not been conceived as a perfectly co-ordinated system. They had been built up clumsily to meet insistent social evils as they had imprinted themselves upon the public mind. He appealed to Sir Kingsley Wood to persuade the Chancellor of the Exchequer to loosen his purse strings for constructive social services as he had done for the rearmament programme. He also advised Sir Kingsley Wood to advertise health as he, when Postmaster-General, had advertised the Post Office. He should carry out a great advertising campaign and get local authorities to do more than they were doing now for expectant and nursing mothers. The Midwives Act was a good measure, so far as it went, but it did not go far enough, and Sir Kingsley Wood should back it up by a co-ordinating campaign, pressing local authorities to use other powers which they already had to deal with this problem by developing ante-natal services, increasing the provision of maternity homes and hospitals, and urging upon the people the importance of the provision of "home helps." Mr. Greenwood hoped that the Minister of Health would collaborate with the Minister of Transport on the matter of ribbon development, which was now being promoted in spite of the legislation in the Town and Country Planning Act and the Ribbon Development Act. Sir Kingsley Wood had drawn comfort from the building of houses, but the overwhelming majority of houses built to-day were built for selling, and many were of a quality which should not be approved. On the outskirts of London many hundreds of houses violated any decent standard of building regulations.

Sir FRANCIS ACLAND said there were some positive advances in the cure of diseases—for example, the treatment of diphtheria by therapeutic immunization—which had not been extended as widely as they might have been. The time had come when the Minister, in conjunction with the Privy Council, might cause the medical curriculum to be reconsidered. It was not much use having this done mainly by persons who, having been trained themselves on a curriculum forty years ago, were now training people on nearly the same curriculum. An intelligent layman willing to keep an open mind might be as useful to the Ministry in examining the matter as some of the heads of the medical profession, whose minds were apt to be as inelastic as the arteries of their elderly patients.

Sir ERNEST GRAHAM-LITTLE intervened to say that the medical curriculum had been recast at least ten times in the last twenty years, and that a special committee of the General Medical Council had considered it for the last six or eight months.

Continuing, Sir FRANCIS ACLAND drew the attention of the Minister to the present position in respect of voluntary sterilization of the unfit. When a deputation went to the Minister last year he said they ought to go on with the work of getting more public support. That had been done, and it was now difficult to find public bodies in any way opposed to the recommendation of the Brock report, which had been published more than four years ago. Public opinion was now willing to back up any effort which the Minister or the Government might make in this matter of voluntary sterilization of the unfit.

Research into Causes of Insanity

Mrs. TATE said there had not been an improvement in public health which the House had a right to expect if all knowledge available to the medical profession had been employed. The insane, so far as curative treatment was concerned, were much where they were many years ago. Nothing, comparatively speaking, was being done to find out the causes of insanity, and under-staffing of mental hospitals was one of the scandals of the age. They would never find out the cause of mental disease until there was greater research into the glands of the human body. Those who had to do with certifying the insane must be struck by the amount of insanity which occurred in both sexes at adolescence and again in later age. This pointed to insanity being closely connected with the glandular system of the body. That was where greater research was needed, but how could there be research when in mental hospitals they sometimes had 700 or 800 patients with only two doctors? They were proud of the research done in Maudsley Hospital, but the money spent on research there to-day was about £4,000 a year, of which £3,000 was provided by the Rockefeller Institute of America, and that money was largely spent on investigating past family histories and not medical causes of the disease. Many mental hospitals had been completed in the last five years which had not a room built in them designed for occupational or recreational work. It was time that Parliament insisted on money being spent on mental research and proper salaries being paid to those engaged in research work.

Mrs. Tate turned to the inspection of nursing homes, which was compulsory under the Ministry of Health. Conditions in many private nursing homes in London and throughout the country, she said, were a scandal. In many instances disease was spread by the London nursing homes. No regulation ensured that rooms were sterilized after each patient had occupied them; the carpets and curtains were still full of the germs of the last patients. She asked who inspected these nursing homes, and what they looked for when inspecting them.

Vaccination Lymph

Mrs. Tate said she believed in vaccination and did not doubt that small-pox was originally stamped out by it. But members or the country were unaware that the vaccination lymph used in this country to-day had little or no relation to that which stamped out small-pox, and was a grave danger to the community. Calf lymph was a lymph with which children had to be vaccinated according to law, but they were being vaccinated with rabbit lymph now. In 1912 the first case of encephalitis following vaccination was notified in this country and was treated at St. Thomas's Hospital. It was known that there had been over 1,000 cases of deaths from encephalitis following vaccination, and she believed the actual number was enormously in excess. The rabbit was known to have encephalitis. The Minister would be told by his Department that encephalitis of the rabbit had no relation to encephalitis of the human being. How did the Department know? It was known that other diseases could be superimposed. She did not know whether the House was aware that the glycerinated calf lymph, the only calf lymph which should be used, would not pass the Ministry's test to-day because the lymph submitted was diluted by 1 in 1,000 and tried on a rabbit, and the glycerinated calf lymph so treated would bring no reaction. The only stuff which could pass the test was a very dangerous lymph from a rabbit which worked with rapidity. She hoped the Minister would either see the country had glycerinated calf lymph or wipe away the tradition that people may be satisfactorily vaccinated, in view of the fact that no one had proved the extraordinary lymph used to-day to be a safeguard against small-pox.

Mr. ELLIS SMITH stated that the medical officer for Stoke said that the standard of overcrowding laid down by the Minister was altogether too low for that area. The houses to be provided were inadequate to abate the overcrowding. The infantile mortality rate in England and Wales for 1934 was 59, and in 121 great towns was 62, but the rate for Tunstall was 86, for Burslem 112, for Hanley 100, for Stoke 64, for Fenton 75, and for Longton 70. The local medical officer in his report said that great work was being done by the voluntary organizations, but Mr. Smith contended that voluntary work only scratched the surface of the problem. The medical officer also stated that a marked degree of nutritional anaemia was present in too many expectant mothers, a large number of whom received no milk, eggs only occasionally, fish once a week, no fruit or vegetables, and only margarine. Diet deficiency such as this was too prevalent, and called for more than local treatment. Mr. QUIBELL said that many of the 323,000 houses built last year were of inferior quality. So far from solving the housing difficulty they were creating a difficulty. It was

commonly said that in ten years the houses now being built in some districts would become slums. He suggested that local authorities should be instructed to appoint officers to inspect the buildings in course of erection.

Medical Education

Sir ERNEST GRAHAM-LITTLE said that progress in mental treatment was not commensurate with progress in other branches of medicine, and the incidence of mental disorder in this country was a cause of grave disquiet. Over 1 per cent. of the whole population of this country was affected with insanity or mental deficiency. Turning to the subject of medical education in this country, Sir Ernest said the Minister might not be aware of the extent to which that education was now available. Two schools for post-graduate medical study had been established upon the initiative of the Ministry of Health. Both were schools of the University of London. Through the first, that of Tropical Medicine and Hygiene, 2,000 students had passed since it opened in 1929. A Congress of the Universities of the Empire, meeting at Cambridge in the past week, had agreed that post-graduate study was a proper object of a university, and that medical studies were the most important of all. The congress agreed that London must be the centre of those studies because of the provision of so many medical institutions in London. There were something like thirty institutions concerned with medical science in the University of London, and the medical student body of London University was nearly half the whole medical population of the schools of this country. Perhaps even more important still was the post-graduate medical school at Hammersmith, opened at the beginning of this year under the control of the L.C.C., the Ministry of Health, and the University of London. The L.C.C. has supplied the school with a hospital equipped with over 500 beds, and between January and June 205 students had gone through the school. While London must be the principal centre of such instruction, it was desirable to have provincial centres, and Cambridge University proposed to have a Department of Clinical Medicine, which would open in the coming session, and would give admission to all post-graduate students in other universities. It was unfortunate that while money was being spent in improving medical education there should be a multiplication of irregular schools founded by irregular practitioners who pretended to give an adequate medical tuition but were unable to do so. He had received a prospectus in which an association claimed to give a complete education in medicine and surgery by postal tuition in nine months. That type of school deserved the attention of the Ministry of Health. Diplomas were issued as a result of that irregular education, and successful candidates were declared entitled to put a large number of letters after their name.

Sir FRANCIS FREMANTLE: But they are not registered diplomas.

Sir ERNEST GRAHAM-LITTLE, proceeding, said every member had been disturbed by the evidence of malnutrition. Much more might be done towards remedying that condition by instruction of the people in the relative values of food. There had been an important recent advance in medicine on that subject. The Ministry of Health should issue leaflets in regard to nutrition as it had previously done on the subject of venereal disease and its prevention.

Mr. WHITELEY said that in Durham County in 1920 they spent £42,000 on the treatment of tuberculosis, but in 1935 £82,000. The only thing they could do after they got patients into a fit condition was to bring them back to the place where they contracted the complaint. Local authorities should be assisted to build houses which met the requirements of these people. This would help tremendously in the treatment of this disease.

Sir FRANCIS FREMANTLE said he wished to endorse the hopefulness of the present situation with regard to cancer. Sir Charles Gordon Watson, senior surgeon of St. Bartholomew's Hospital, had recently delivered a farewell lecture in which he reviewed the position with regard to this disease. Sir Charles quoted Dr. McKillip's statement that the vicious circle of fatalism regarding the disease was based on a false assumption that cancer was an incurable disease. He made the statement that the only way to break the vicious circle was to let the public know that localized cancer was easily curable by means which they had at their disposal, and that thousands of cured persons were living healthy lives; and also that cancer only spread beyond the reach of cure if it was neglected. That message meant that they had to spread knowledge of the position among the people through the health authorities, the education authorities, the insurance committees, and all the voluntary associations. He would point out the necessity especially of having occasional medical overhauls; this was one of the best ways of preserving life, especially against malignant disease or heart disease.

Sir RICHARD MELLER asked about the position of unemployed persons who, as a result of the 1935 Act, had been reinstated in benefit. A report had been presented to the Minister by the joint committee which had been considering optical benefit. That committee represented the approved societies and the opticians. It was appointed to deal more particularly with ophthalmic treatments and the provision of glasses. The report had been in the hands of the Minister for some months and the House was entitled to know what the Minister proposed to do.

Mr. GEORGE GRIFFITHS said that daily ninety-five men, women, boys, and girls died in this country of tuberculosis, and that 54 per cent. were under the age of 35. Of those who died of tuberculosis in England and Wales 34 per cent. were between the ages of 15 and 25. Last year there were 66,000 new cases of tuberculosis reported in this country. This disease was largely due to poverty, overcrowding, and bad housing. In certain depressed areas in the North, and in seven ports, with a total population of 6,140,000, the infantile deaths were 64,052. The population of London and Middlesex was the same to within one or two thousand, and the infantile deaths there were 38,629. The maternal deaths in the depressed areas numbered 3,965, but in London and Middlesex they were 2,206. Yet people said that this mortality was not a matter of poverty and that they should give instructions so that women would know how to cook. It was not instruction that women needed but food to eat. He would ask Mr. Shakespeare to reply to questions concerning people with diabetes. One out of every 250 people suffered with diabetes, and yet the Ministry of Health never said a word about it. In 1924 there was an Order in Council that every State-insured person in the country should have insulin free, and that anybody who could not afford insulin should be able to get it through a Public Assistance Committee. He asked the Minister of Health to give the matter better consideration than it had received for the last three years. All working-class people and their wives should be able to get insulin. Even if a man was working and his wife was suffering from this dread disease the Public Assistance Committee should give her sufficient insulin to keep her alive.

Mr. DAVID ADAMS said that under the Poor Law those who lost their title to national health insurance were in the main attended by district medical or Poor Law doctors. They discovered in Newcastle that the remuneration of these doctors was too small. An examination of the position of these doctors throughout the country would reveal the same thing. In Newcastle the remuneration was 6½d., in addition to which the doctor had to find dressings. It was obvious that he could not give adequate attention. Newcastle therefore set up a panel of doctors remunerated on a proper scale, and now gave to those under the Poor Law a domiciliary medical service as good as could be obtained under national health insurance. Mr. Adams asked the Minister to make it obligatory upon all authorities to set up such a panel of doctors. He also asked whether it was possible for the Minister to compel local authorities to give help to expectant and nursing mothers the standard of income of whose husbands was merely equal to that of the unemployed. That was being done in the North.

Mr. AMMON closed the discussion for the Opposition. The inspection of milk, he said, was under the direction of the Minister of Health, and he wished to bring to his notice the danger of infection. Many members had received a copy of a report from the Peoples' League of Health which said that milk should not be allowed to be the medium for the distribution of tuberculosis and other diseases. This report indicated the need for further investigation by the Ministry. In the outbreak of scarlet fever at Denham last year, which arose out of the milk supply, eighty-five persons were infected and two of them died. The medical officer of health in a metropolitan borough reported a case in which an employee of a firm selling pasteurized milk was seen to be filling up bottles from a slimy tub in a stable yard, and a sample was found to contain 38 per cent. of added water with gnat larvae in the milk. Such cases indicated the need for closer inspection of the distribution and retail sale of milk. The same medical officer called attention to the increasing consumption of ice-cream by adults and children, and pointed out that there was no bacteriological standard for ice-cream, which was a favourable medium for the growth of bacteria, including disease-producing germs.

Government Reply

Mr. SHAKESPEARE replied to the debate. He said that over 90 per cent. of the London milk supply was pasteurized. He agreed that the medical officer of health of any borough would have a difficult task in supervising every glass and every bottle of milk, but the general supply was very clean. Mrs. Tate had raised the question of nursing homes, and Mr. Shakespeare said he would consult with the Minister to

see whether anything could be done to strengthen the supervision by local authorities, who were responsible for it. The question of contracting encephalitis from the lymph of rabbits was a medical question on which he and Mrs. Tate were not competent to speak.

Mrs. TATE said she had quoted a medical man with every form of qualification.

Mr. SHAKESPEARE said he quoted the opinion of a medical man of international reputation, who was the Ministry's Chief Medical Officer of Health. In his view and in the view of other advisers in the Ministry encephalitis in rabbits was quite different from post-vaccinial encephalitis in the human being.

Turning to slum clearance he said that people had been rehoused from the slums at an average of 2,000 annually in the forty-five years before 1919, 5,000 in the decade afterwards, and 15,000 annually in the two and a half years after 1930. Members had said the standard of the 1935 Act was too low. But in London that standard had applied to 70,000 overcrowded families, and on the London County Council estates 10 per cent. of the houses were overcrowded by this standard. Low as the standard might be, London would be busy on its slum clearance and overcrowding programme for the next ten years, and thereafter Parliament could consider a tightening of the standard. As regards the slum problem in the rural areas the rural authorities informed the Ministry that they had 38,000 slum houses to be dealt with. The total of overcrowded houses in rural districts of England and Wales was about 43,000. It would take the rural districts all their time to overcome this bad housing within the next five years. Under the Act of 1926 Scotland had reconditioned some 23,000 houses, but England and Wales only some 11,500 rural houses. More use could be made of this Act. To encourage the provision of community centres on housing estates the Minister of Health had pointed out that since all housing accounts had been consolidated the maintenance of community centres became a part of the housing account, and where there was a surplus in this account it might be utilized for the maintenance of such centres. For a juvenile centre there was a 50 per cent. grant from the Board of Education. Mr. Griffiths had asked what were the rights of a diabetic who, through poverty, could not obtain insulin, or of a diabetic wife of a man in work. If the diabetic were insured he got insulin free. There was a provision in Section 133 of the Public Health Act, 1875, by which local authorities, on getting the sanction of the Ministry of Health, could issue medicines free to poor persons. That would cover the wife of a miner getting, say, 30s. per week who could not afford five or six shillings a week for insulin. If Mr. Griffiths notified the Ministry of Health it would take up any case immediately with the local authorities.

The discussion was adjourned at 11 p.m. without a division.

Public Health Bill

In the House of Commons on July 16th Sir KINGSLEY WOOD moved that the Public Health Bill be read a second time. The Bill had already passed the House of Lords. Sir Kingsley said that it was a stage in the consolidation and bringing up to date of the statute law for which the Ministry of Health was responsible. It represented the work of a Departmental Committee set up in 1930 by Mr. Greenwood under Lord Chelmsford, and subsequently under Lord Addington. The Bill applied to England and Wales, with minor exceptions, but not to the County of London. The Bill covered a large proportion and perhaps the most important sections of public health law, reducing to an intelligible code a collection of sections scattered over some fifty-five Acts of Parliament. The Bill was not an ideal code of public health law, but the foundation on which future amendments could be solidly built. Six hundred sections of the existing law were compressed into 356.

Major MILNER, as one of the committee which had sat for five years on the subject, said the Bill referred to those provisions of a strictly public health character which related to prevention and treatment of disease—such matters as drains and sewers, buildings, water supply, abatement of nuisances, personal hygiene, the provision of hospitals, maternity centres, and so on. The committee had made minor changes to bring uniformity between the powers of different authorities, and adoptive Acts had been incorporated in the general law by the Bill.

Mr. TINKER wished that the Bill would deal with the nuisance of burning pit-heaps, to which the medical officer of health for the Wigan area had called attention in the previous week.

Mr. H. G. WILLIAMS said the Bill would make clear the duties of the sanitary authorities over nuisances arising in connexion with offices. He believed the Bill would deal with all the grievances which led to the agitation for the Offices Regulation Bill.

Mr. SHAKESPEARE said the operative date of the Act was fixed in the Bill as April 1st, 1937, but a suggestion would be made in committee. There would also be a suggestion by the Government as regards measles. Mr. Tinker's plea about burning slag-heaps would be borne in mind.

The Bill was read a second time without a division, and referred to a committee of the whole House. The necessary financial resolution was also carried.

On July 20th Mr. WALTER GREEN asked the Prime Minister whether he would arrange for the Public Health (London) Bill to be taken up as a Government measure and passed before the Summer adjournment. Mr. Baldwin replied that the Bill was to consolidate the law, and he did not anticipate that there would be any difficulty in passing it into law before the Recess.

Medical Attention for Unemployed Juveniles in Scotland

When the Education (Scotland) Bill was before the House of Lords for second reading on July 14th, the EARL OF ELGIN said that in England and Wales it was possible to give medical treatment as well as inspection to young persons attending approved courses at instruction centres, but under existing Acts in Scotland medical treatment was not possible. The granting of this benefit to young persons in England and Wales was based on an English Education Act, and he pressed the Government to deal with it speedily in Scotland.

Lord STRATHCONA, replying for the Government, said that to put a provision of this sort in an Education Bill would be incorrect. It was a question of health services. The Ministry of Labour was advised by the National Advisory Council for Juvenile Employment of steps taken to develop medical services for unemployed juveniles. The Ministry of Labour was disposed to take the first opportunity to alter the law so as to render possible, at junior instruction centres in Scotland, the provision of medical services of the same nature and extent as could now be provided in England and Wales.

The Bill was then read a second time.

Health of Scotland

The House of Commons, on July 14th, considered the Estimates for the Scottish Department of Health.

Sir GODFREY COLLINS said the health policy was many-sided and in the last few years a growing interest had been taken in health. With improved health and that growing interest had come a wider conception of what health was and what should be done to provide for and safeguard it. The public was beginning to realize that health was not merely absence of disease, or of defects, physical and mental. Health policy was concerned not merely with the treatment and cure of disease, with the doctor and nurse in the home, with hospitals, convalescent homes, and other such institutions. It went beyond these things and beyond protection against disease. In recent years a change of emphasis had taken place both in medical thought and in public opinion. There had grown up a demand not merely for protection against disease but for a positive policy to enable the people to build up the power to resist disease. There had been a change from a negative to a positive policy. The best defence against disease was a fit nation, and, in that, he laid stress on the value of a well-proportioned diet, better housing, adequate supplies of water, education in the care of the body and the mind, training for leisure, and healthy recreation and facilities for enjoying it. The Government, central and local, could do much to strengthen and enlarge this conception of health, but unless individual citizens were prepared to take advantage of education and work it out in their lives practically Government action could be of little avail. We had to learn to live healthily. That was a slow process, but until that habit had been absorbed by the people their health would not come up to the standards desired. We could do something with the middle-aged, and even with the old, but the best raw material which existed for improving the health of the people lay in our young men and women.

Progressive Housing and Slum Clearance

Referring to the progress which had been made in recent years, Sir Godfrey Collins said that in 1870 the expectation of life from birth was just under 41 years. To-day it was over 57 years. The general death rate in Scotland was now little more than half what it was sixty years ago, and the infantile death rate had been reduced one-third since the beginning of this century. In 1870 for every 280 living persons one died from tuberculosis ; to-day the death rate was less than a quarter of what it was then. Their efforts to reduce maternal mortality had not been successful, and the figures for Scotland were 50 per cent. higher than those for England. The Midwives Bill for Scotland would be introduced on July 24th, before the House of Commons rose for the summer recess, so that the local authorities and the public would have ample time to consider it in detail.

During the past year private enterprise had produced the highest number of small houses, with one exception, in any year since the war. There was a shortage of labour, particularly of bricklayers, in many parts of Scotland, and he had met representatives of the employers, and hoped shortly to meet representatives of the workers, to consider that problem. In February of last year he had stated that by last December thirty-five local authorities would have placed contracts to build 60 per cent. of their needs to replace slum houses in their area during the next five years. That had been amply secured, and within the five-year period, if the present rate of progress continued—he saw no reason why it should not —all the slums would have been destroyed. More slums had been destroyed and new houses built for the accommodation of the slum dwellers in the last three years than in the previous thirty years. The local authorities had been very prompt in making the survey of their needs in the matter of overcrowding. It was estimated that to abolish overcrowding 150,000 houses were required. The programmes submitted by the local authorities covered 37 per cent. of the need. In no case would one- or two-roomed houses be built to deal with the overcrowding problem. There were now fifty-two youth hostels in Scotland, compared with nine formerly. Scotland was a long way behind other countries in the open-air movement, and he appealed to local authorities and all who could influence public opinion to encourage the movement.

Opposition Criticism

Mr. JOHNSTON said that there was another side to the picture which Sir Godfrey Collins had drawn. The death rate in Scotland was still higher than that in any northern country in Europe, and there was also an appalling scarcity of houses for young couples. Sir A. SINCLAIR urged the Government to give assistance to the Highland counties, where rateable values were very low, in the improvement of their water supplies.

Mr. BOOTHBY said that the unsatisfactory character of the vital statistics could be remedied by better hospital facilities and midwifery services. Until the Government was prepared to face the question of sterilization of mental defectives and of contraception they would never come to serious grips with the matter.

Mr. LEONARD laid emphasis on the importance of air conditioning in schools, and urged that the example of Germany should be followed in installing apparatus for providing bacteria-free air.

Lieut.-Colonel MOORE suggested that in the national health insurance scheme panel doctors should be given the right to prescribe milk in addition to medicine for young people.

Miss HORSBRUGH said that the dental treatment of children in Scotland was not receiving sufficient attention. The examination of the teeth of children in the first year of their school life was of vital importance, and it might be possible in the next ten or fifteen wears to work out a dental scheme which would help enormously.

Reply to the Debate

Colonel COLVILLE, replying to the debate, said that the Government was making a deliberate and concentrated attack on the dual problem of slums and overcrowding. The milk scheme in Scotland had made great advances, and the amount of milk consumed by children in schools was very large. The Government would do all in its power to encourage the distribution of milk. The Government was fully conscious of the fact, which was brought out in the report on the Scottish Health Services, that there was a shortage of hospital accommodation at present. That was evident, particularly in regard to infectious diseases, and this particular recommendation of the report would have the earnest and immediate consideration of the Government. The report would not be pigeonholed by the Government, but would be, and was being, used for the framing of policy.

The vote was carried by 176 to 111.

Experiments in Automatic Gas Detectors for Mines

On July 14th Captain CROOKSHANK, replying to Mr. T. Smith, said that the regulations in regard to the provision of firedamp detectors made last year for an experimental period of two years had been in force for nine months. Until recently only two types of detector had been approved for this purpose—namely, the flame safety-lamp and the " Ringrose " automatic detector, but a new non-automatic type was approved on June 9th. Tests of a second automatic type had been completed, and its approval was under consideration ; experiments with other types were proceeding. The Mining Association had offered a prize of £500 for the best combined automatic detector and safety-lamp and, at its invitation, the committee which was to deal with the matter included representatives nominated by the Mines Department and the Mine-workers' Federation respectively. Progress was therefore being made towards widening the choice of a detector, but in the meantime he was still not satisfied with the measures taken by mine owners in certain of the coalfields towards getting practical experience of the working of the regulations, using the automatic detector already available. He was pressing the Mining Association to deal more effectively with this side of the matter without further delay, as the time was approaching for him to set up the committee which was to review the working of the regulations.

Sale of Medicine and Medical Appliances on Sunday

During consideration of the Shops (Sunday Trading Restrictions) Bill on the report stage in the House of Lords on July 14th, Viscount BERTIE moved to amend the paragraph in the first schedule which permits the opening of a chemist's shop for sale of medicines and medical and surgical appliances. He moved to omit the provision that the sale should be by any person who has entered into a contract with an insurance committee under the National Health Insurance Acts, 1924 to 1935, for the supply of drugs and appliances. He said that under the paragraph as it stood no person would be able, unless he had entered into a contract with an insurance committee under the National Health Insurance Acts, 1924 to 1935, to supply drugs and appliances, and it was rather hard that a man should not be able to have a prescription made up or be able to get a patent medicine to prevent a cough or something of that kind.

The EARL OF MUNSTER said he had an amendment to allow the sale of medicines and medical and surgical appliances " at any premises registered under Section 12 of the Pharmacy and Poisons Act, 1933." As the schedule stood the exemption was confined to those chemists or drug stores who had entered into a contract with the local National Health Insurance Committee. Any chemist or drug store could enter into such a contract, but it had been pointed out by his advisers that certain chemists had not done and had no wish to do insurance work. At the same time they desired to remain open on Sunday. It was to exclude this type of shop that he proposed that the exemption should also apply to any premises registered under Section 18 of the Pharmacy and Poisons Act, 1933. That would have the effect of applying the exemption to any chemist's shop irrespective of whether it was the subject of a contract with an insurance committee or not. That, he thought, would meet Lord Bertie's point. Lord Bertie's amendment, if carried, would mean that a grocer's or ironmonger's shop or a general shop which stocked a few bottles of patent medicine might remain open on Sunday.

Viscount BERTIE said it was not his intention that any grocer's shop should be open for the sale of drugs of any sort. He was not quite clear, however, if under Lord Munster's amendment a person who wanted a prescription made up could go into a chemist's shop and get a patent medicine also.

The EARL OF MUNSTER said that that would be the case.

Viscount BERTIE thereupon withdrew his amendment and the Earl of Munster's amendment was agreed to.

The coming into operation of the Act was postponed from January 1st next to May 1st, 1937.

The Bill passed the report stage, and was set down for third reading on Thursday, July 16th.

Dr. M'Gonigle on Nutrition

Dr. M'Gonigle, medical officer of health for Stockton-on-Tees, gave an address on nutrition and public health at the House of Commons on July 15th to the Health and Housing Committee of the Conservative Party. Sir Francis Fremantle presided. Dr. M'Gonigle said that starvation did not exist in this country, but that defective nutrition from shortage of protective foods was common. The vital statistics and nutritional conditions of the people had greatly improved, but minor rickets still produced pelvic deformity and danger in childbirth. The prevalent dental caries, mostly due to absence of certain minerals and of vitamin D, was related to rickets. The nutritional value of food was directly related to its cost, and with every increase of 10s. a week in family income the food more nearly approached an ideal diet, with milk, meat, eggs, and vegetables. Tinned vegetables and fruits were much cheaper and there was no evidence that they were less satisfactory. Tinned tomatoes were the best source of vitamin C. "Fish and chips" were excellent food, whereas herring was not a cheap food. Many maternal troubles were due to absence of vitamin E, which should naturally be included in normal food. To give the child the required 12 grams of protein in a pint of breast milk the mother needed 24 grams extra in her intake. Was it the better policy to feed up the mother beforehand or the child afterwards in the maternity and child welfare clinic?

Medical References Under the Workmen's Compensation Act

Sir JOHN SIMON stated on July 15th that the Departmental Committee on the system of certification by medical referees had practically completed the taking of evidence. Pending receipt of the report, he was not prepared to consider legislation to permit an appeal from the decision of a single medical referee appointed under the Workmen's Compensation Act.

On the same day Sir John Simon told Mr. T. Cassels that Dr. A. E. Hunter, Falkirk, medical referee under the Workmen's Compensation Act, decided in 1933 eighteen references under Sections 19 and 43 of the Act of 1925; in 1934 nineteen references, and in 1935 thirteen references. Mr. Cassels asked in how many cases the workmen were certified, respectively, as totally recovered from the effects of accident, and as partially recovered and fit for light work. Sir John Simon said he had no information on the terms of these decisions and he did not follow the purpose to be served by the inquiry which Mr. Cassels suggested he should make.

Mr. Cassels said he was making an effort to ascertain the bona fides of this medical referee.

Sir John Simon said that if Mr. Cassels had any grounds for suggesting want of impartiality or bias he (Sir John) would have the matter looked into.

Mr. Cassels gave notice that he would raise at the first available opportunity the unsatisfactory reply of the Minister.

Silicosis in Fire-brick Industry.—On July 13th Mr. JOEL asked if the Home Secretary's attention had been called to the case of a workman engaged in grinding fire-bricks who contracted silicosis and was not entitled to compensation, whereas another workman working in the same factory and grinding silica bricks was entitled to compensation; and whether he would take steps to provide that these anomalies in the compensation law should be altered. Mr. GEOFFREY LLOYD, who replied, said that the Home Office had no evidence that workmen engaged in the fire-brick industry were exposed to the risk of silicosis so as to justify the making of a compensation scheme to cover them. In regard to the first case mentioned he understood that the workman had not been examined by the Silicosis Medical Board, and that in correspondence with the Board it was merely certified that silicosis was suspected. He would, however, have further inquiries made.

Local Authorities Not Supplying Milk and Meals.—Sir KINGSLEY WOOD told Miss Rathbone on July 15th that in England and Wales Cowbridge Town Council and Whitby Urban District Council were the only local authorities which made no provision for a supply of milk, meals, or other food for expectant or nursing mothers or for children under school age. Maternity and child welfare authorities which provided milk or other food for children under school age, but not for expectant or nursing mothers, were Staffordshire County Council, Clitheroe Town Council, and Coseley Urban District Council. These five authorities constitute about 1.25 per cent. of the maternity and child welfare authorities in England and Wales.

The Term "Mental Hospital."—In reply to Mr. Gallacher on July 16th, Sir KINGSLEY WOOD recalled that the Mental Treatment Act, 1930, prescribed that in England and Wales the term "mental hospital" should be substituted for "asylum." He added that he did not think it necessary to modify the term "mental hospital." The large and increasing proportion of persons applying voluntarily for treatment at these institutions suggested that the idea that any stigma attached to treatment in such institutions was rapidly disappearing.

Nurses' Working Hours.—Miss THELMA CAZALET asked on July 16th whether, as nurses still worked as many as seventy hours a week in some of the voluntary hospitals, the Minister of Health would introduce legislation to limit those hours. Sir KINGSLEY WOOD replied that in recent years there had been considerable improvement in this matter. It was quite exceptional for nurses to be required to work so many hours as stated by Miss Cazalet. He did not think legislation necessary, but if particulars of any cases were sent to him he would look into them.

Inquests on Deaths in Childbirth.—Mr. TOM GROVES on July 16th asked the Minister of Health to consider the advisability of taking steps to require that an inquest be held on every death of a mother in childbirth with a view to having exhaustive inquiries made into each case. Sir KINGSLEY WOOD in his reply said this suggestion was considered by the Departmental Committee on Maternal Mortality and Morbidity, who did not advocate its adoption. The committee advised that local authorities should be urged to continue the arrangements by which medical officers of health made inquiries into maternal deaths and furnished confidential reports to the Chief Medical Officer of the Ministry. Arrangements had been made accordingly, and these reports were received periodically from most medical officers of health.

A Certifying Surgeon's Position.—Mr. CASSELS asked, on July 16th, whether Dr. Alan Tuke, Dunfermline, a certifying surgeon under the Factory and Workshop Act, 1901, for that district, was also a medical adviser to the Scottish Mine-owners' Defence and Mutual Insurance Association, Ltd. Sir JOHN SIMON said Dr. Tuke reported on particular cases for the association from time to time, but did not hold any appointment as their adviser. He had been certifying factory surgeon for twenty-five years without, apparently, any complaint as to his not being impartial in the performance of his duties. It was desirable that certifying surgeons should be men of wide experience, both honest and experienced. It would be wrong for a certifying surgeon to act as it were on both sides in the same matter, and he was sure Dr. Tuke did not do so. The general question of the position and functions of certifying surgeons under the Workmen's Compensation Act was now being reviewed by the Departmental Committee on Workmen's Compensation. This matter was one which they would consider. Mr. ROWSON asked that Sir John Simon would ensure that if this doctor had certified anybody in his district to be suffering from an industrial disease, steps were taken to prevent him examining on behalf of the employers any man suffering from any of these diseases. Sir JOHN SIMON replied that Mr. Rowson's proposition was perfectly right. He was assured that this doctor did not do so, but he would make further inquiries.

Dust Diseases.—Mr. JAMES GRIFFITHS asked whether the Home Secretary would now bring within the Various Industries (Silicosis) Scheme, 1934, the coal miners, both underground and surface workers, who were disabled by fibrosis of the lungs. Mr. GEOFFREY LLOYD answered that it was not possible in the present state of medical knowledge to take

the action suggested. Fibrosis of the lungs was a not uncommon condition which arose from a variety of causes, not necessarily occupational at all. Fibrosis due to inhalation of silica or asbestos dust could be distinguished by expert examination. It was not possible in other cases to say whether the fibrosis was due to the effects of dust inhaled in the course of employment. The problem was being investigated by the Industrial Pulmonary Diseases Committee of the Medical Research Council, who were alive to its importance and urgency and visited South Wales last month, obtaining information from a number of local doctors and others. If, and when, that committee reported that other forms of occupational fibrosis could be distinguished as such, the Home Secretary would consider at once the steps necessary, whether by legislation or otherwise, to bring them within the scope of the Act.

Contaminated Water Supply in Surrey.—On July 20th Mr. SHAKESPEARE told Sir Richard Meller that his attention had been called to the recent pollution of the water supply in the districts of Carshalton, Beddington, and Wallington, as the result of which hundreds of persons had been seriously affected; and he was satisfied that the methods at present adopted to secure a pure water supply were efficient. Officers of his Department had been in close touch with the situation, and he did not at present think that any more formal inquiry was necessary. The supply from the contaminated source was cut off as soon as the contamination was suspected, and no notice to the consumers could have been given in time to be effective.

Regional Medical Officers.—On July 21st Sir KINGSLEY WOOD, replying to Mr. Graham White, said that at present two of the doctors employed on the regional medical staff for national health insurance were women. Regional medical officers were appointed by him, and their emoluments were borne on the Ministry of Health vote, but the bulk of the cost was recovered from the approved societies as an appropriation-in-aid.

Notes in Brief

Mr. Shakespeare, replying to Viscountess Astor on July 14th, said that the Minister of Health had no statistical material on which to compare the physical condition of elementary school children under the care of public institutions with those not under such care.

Medical News

One of the efforts undertaken by her friends and colleagues in memory of the late Dr. Christine Murrell has taken the form of a small post-graduate fellowship fund, administered by the Medical Women's Federation for the benefit of its members. The first award will be made in the autumn. Medical women are invited to make application, by September 30th, to the medical secretary, Medical Women's Federation, 9, Clifford Street, Bond Street, London, W.1.

In the *Journal* of October 12th, 1935 (p. 694), we published the text of a manifesto on war and peace signed by 350 psychiatrists and psychologists of various nations. The Netherlands Medical Association, which drew up this manifesto, has since issued through its Committee for War Prophylaxis a bibliography on the war problem, war psychology, and war psychiatry. We are asked to say that Captain Alan Thomas of the League of Nations Union, 15, Grosvenor Crescent, London, S.W.1, would be pleased to receive names of any psychologists who are in sympathy with this movement.

The posthumous award of the Albert Medal in Gold was made by the King on July 14th to the mother of the late Dr. John Melly, leader of the British Red Cross Society's expedition in Abyssinia.

The first European Congress of Plastic Surgery will be held at Brussels on October 3rd and 4th, under the presidency of Dr. Coelst (Brussels); the vice-presidents are Mr. Pomfret Kilner (London) and Professor Sanvenero-Rosselli (Milan). Communications and inquiries should be addressed to the executive committee, 118, Avenue Louise, Brussels.

At Golborne, near Warrington, an outbreak of diphtheria began just over two weeks ago. Most of the affected children have been taken to Astley Sanatorium, Leigh, where there are now thirty-nine child diphtheria patients from the town, of whom three have died and two have been discharged. According to reports in the lay press the origin of the Golborne epidemic has not so far been traced. In order to prevent the spread of infection, open-air baths at Newton-le-Willows have been closed, cinemas in the town have agreed to refuse admission to children under the age of 14, and all the other routine precautions have been taken.

The fifth International Congress of the International League Against Rheumatism will be opened at Lund, Sweden, on September 3rd, continuing there until the 5th and concluding at Stockholm, 7th to 8th. Discussions will take place on the following subjects: (1) allergy in rheumatic diseases; (2) the reading of *x*-ray photographs in arthritis; (3) the nature of myalgia; (4) the help of the orthopaedist in rheumatic diseases; (5) housing conditions for rheumatic patients; (6) affections of the shoulder-joint as affecting function in different occupations. Excursions will take place to Visby in the Baltic island of Gothland and the provinces of Dalécarlie and Jämtland. Medical men and their friends proposing to be present should apply before August 1st to the Congress Secretary, Professor Agrégé G. Kahlmeter, Birgerjarlsgatan 36, Stockholm. An English party is being made up, to leave London on the afternoon of August 31st. Particulars may be obtained from Dr. R. Fortescue Fox, 36, Devonshire Place, W.1.

The fourth European Mental Hygiene Reunion, arranged under the auspices of the National Council for Mental Hygiene, will be held at the Ministry of Health, Whitehall, S.W., from Monday, October 5th, to Thursday, October 8th, both days inclusive. The proceedings will open with a discussion on "Mental Hygiene and the Cinema," and on the second day there will be discussions on "Mental Hygiene and the Nurse" and "Mental Hygiene and the School." October 7th and 8th will be devoted to visits to various mental hospitals, institutions, etc., in and around London. The number of tickets available for the Reunion is strictly limited; 75 have been set aside for members of the medical profession, and applications for these, with the remittance (£1 1s. for admission to all sessions and for advance copies of the papers) must be received by the National Council for Mental Hygiene, 77, Chandos House, Palmer Street, S.W.1, by July 22nd.

The German Society for Combating Rheumatism will hold its annual congress at Dresden from September 20th to 23rd, when the chief subject for discussion will be the spa treatment of disturbances of the motor nervous system.

The Soviet Government has decided to organize at Moscow a special institute for experimental physiology and therapeutics at the municipal hospital Pirogoff, in which physiologists, physical chemists, biochemists, and other men of science will take part, and has allotted 500,000 roubles for its equipment.

An institute for the investigation of rheumatism, the first of its kind in Austria, has been erected at Baden, near Vienna. A balneological investigation department will be added later. The honorary director of the institute is Professor R. Ewald.

The issue of *Deutsche medizinische Wochenschrift* for July 3rd is devoted to fruit as an article of diet.

Dr. Charles H. Mayo has retired from the chair of surgery at the Mayo Clinic, Rochester, and has been made professor emeritus.

An outbreak of over 400 cases of lethargic encephalitis has recently occurred in Tokyo.

Professor Hans Hinselmann, director of the municipal gynaecological hospital in Altona, whose study of the early diagnosis of cancer of the uterus by colcoscopy has recently attracted much attention, has been appointed dozent in charge of the discipline: "Kolposkopie und Frühdiagnose des Uteruskarzinoms."

Letters, Notes, and Answers

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, B.M.A. House, Tavistock Square, W.C.1.**

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QUERIES AND ANSWERS

Fifteen Months in Elastoplast

Dr. M. MELGRAVE (Dagenham) writes: To what extent is it necessary to change elastoplast bandages in cases of varicose veins of the leg? I put one on an elderly lady of 69 on March 14th, 1935. She had had for twenty-five years a long, narrow ulcer about one-third of an inch wide on the outer side of the foot below the malleolus. The bandage was sponged now and again with lysol solution. She was disinclined to have the bandage removed, and I saw no reason for removing it, and, in fact, encouraged her to leave it on. Now, after fifteen months, she felt some discomfort at the heel, and so the lower portion of the bandage over the foot and to just above the malleoli has been removed. The ulcer is soundly healed and covered with firm, pinkish-white skin. The cast-off epidermis was noticed to be in some four layers, the colour changing layer by layer from the original chocolate-brown to white. During the last three months the lady, previously a semi-invalid, has been doing most of her housework, and, more recently, at 70 years of age, she has done a heavy day's washing of blankets, etc. Obviously it is unnecessary to change these bandages unless there is a definite indication. They are preferably left undisturbed. Clearly this will result in great economy.

Medical Equipment for a Ship's Doctor

Dr. E. C. ATKINSON (Royal Berkshire Hospital, Reading) writes: I am shortly going on a world's cruise as doctor to a small schooner. Can any one tell me what medical equipment and drugs (particularly those for use in the Tropics) I ought to take? Perhaps there is a reader who has sailed under similar circumstances and could give me some useful hints. I should be very grateful for any suggestions.

Income Tax

Partnership Assessment

"Z. X." puts the following inquiry. A. and B. were in partnership until April 1st, 1936, when C. acquired B.'s share. A. and B. were assessed for the year 1935–6 on the basis of their cash profits in the previous year. What options are open to A. and C. as regards the present year's assessment—that is, 1936–7?

*** It has to be borne in mind that the earnings basis is the correct legal basis and that the cash basis is a matter of convenience only. Where, however, cessation and succession are not claimed (and that would require B.'s co-operation) the Revenue authorities do not normally object to the continuance of the cash basis, in spite of a change of partners. A. and C. can therefore make their return for 1936–7 on the basis of the gross cash receipts of A. and B. in 1935–6 less A. and B.'s expenses. The assessment is on the firm, and each year all practice receipts must be brought in, whether they are taken by A., B., or C. If, however, A. and C. elect to be assessed on the earnings basis —that is, on the probable amount of the receipts from the work done by partners in 1935–6—the only difficulty lies in estimating the amount of bad and doubtful debts at the beginning and end of that year. If they wish to have the present practice regarded as starting at April 1st, 1936, as a new one (and assuming B. joins in the request) 1935–6 may be adjusted at the Revenue option to the earnings of that actual year, and A. and C. can start on an earnings basis, ignoring all receipts from work prior to April 1st, 1936.

Comprehensive Insurance

"W. H. H." has a comprehensive policy on which he pays a premium of £3 10s., of which £2 5s. relates to the building and £1 5s. to the contents. What can he claim for "maintenance allowance" against the Schedule A assessment?

*** £2 5s. The £1 5s. in respect of "contents" is an occupier's, not an owner's, expense.

LETTERS, NOTES, ETC.

Poverty and Public Health: Correction

We regret that the number of pages and the price were wrongly stated in the footnote to the review of Dr. G. C. M. M'Gonigle's book—*Poverty and Public Health*—which appeared in our last issue (July 18th, p. 125). The book consists of 275 pages, and is published at *6s. net*, and not at 25s. as stated.

Ultra-short Wave Therapy

Dr. A. KHASTGIR (Manchester) writes: I would like to add to Mr. Morton Whitby's experience (*Journal*, July 4th, p. 48) that with ultra-short wave therapy I have obtained similar good results in the treatment of bronchial asthma, bronchiectasis, and pulmonary tuberculosis. One case, a male aged 41, in August, 1935, weighed 8 st. and had a sputum showing "a moderate number of tubercle bacilli." He had previously been treated with ultra-violet therapy and autohaemotherapy. Since being treated every other day for the last three months with ultra-short wave therapy he has improved considerably, weighs 10 st., and has a negative sputum. He is back at his work, and is still continuing with the treatment now twice a week. The apparatus I use is also made by Stanley Cox, Ltd., Gerrard Street, W.1.

"Ampuliques"

A new booklet on "ampuliques" has just been issued describing the number and variety of drugs and glandular preparations available in this form for hypodermic injection. A special alkali-free glass is used, each ampoule containing only one dose of the preparation, and they are conveniently packed in boxes of six or twelve. Enough solution is put into every ampoule to allow the full dose to be obtained without waiting for the liquid to drain from the sides, a point of some importance when dealing with oily solutions or suspensions. This booklet may be obtained on application to the manufacturers: Messrs. C. J. Hewlett and Son, Ltd., 35-42, Charlotte Street, London, E.C.2.

Scottish Medical Golf

A Sunday meeting of the Scottish Medical Golfing Society was held on July 19th at Berkhamsted Golf Club. Medal and bogey competitions were held, with the following results: *Medal*: 1. Dr. Burton Yule, 79 less 4 = 75; 2. Dr. John Grant, 81 less 3 = 78. *Bogey*: 1. Dr. Burton Yule, all square; 2. Dr. John Grant, 3 down.

Vacancies

Notifications of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 38, 39, 40, 41, 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 75.